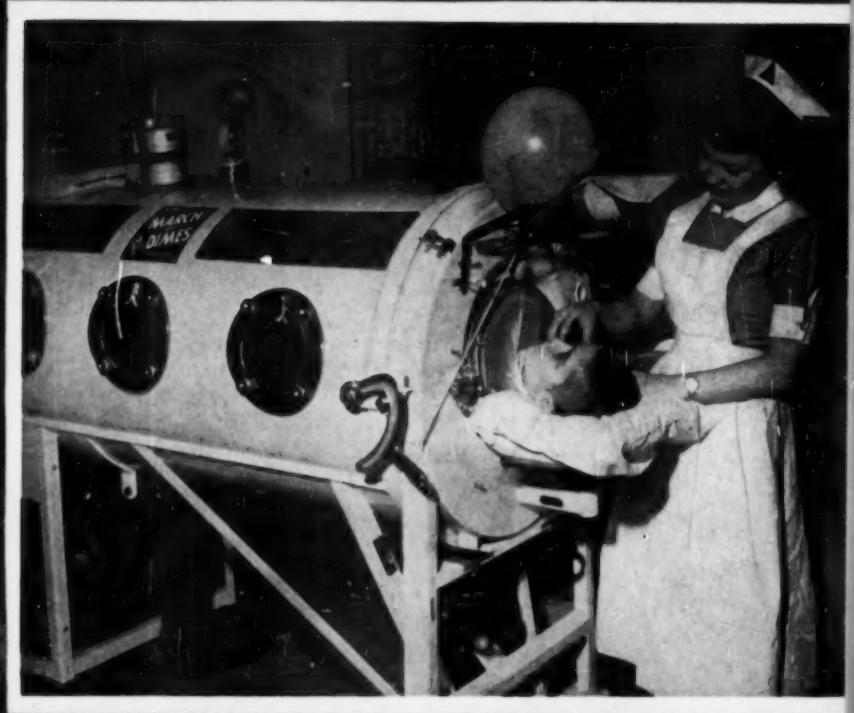
Nursing



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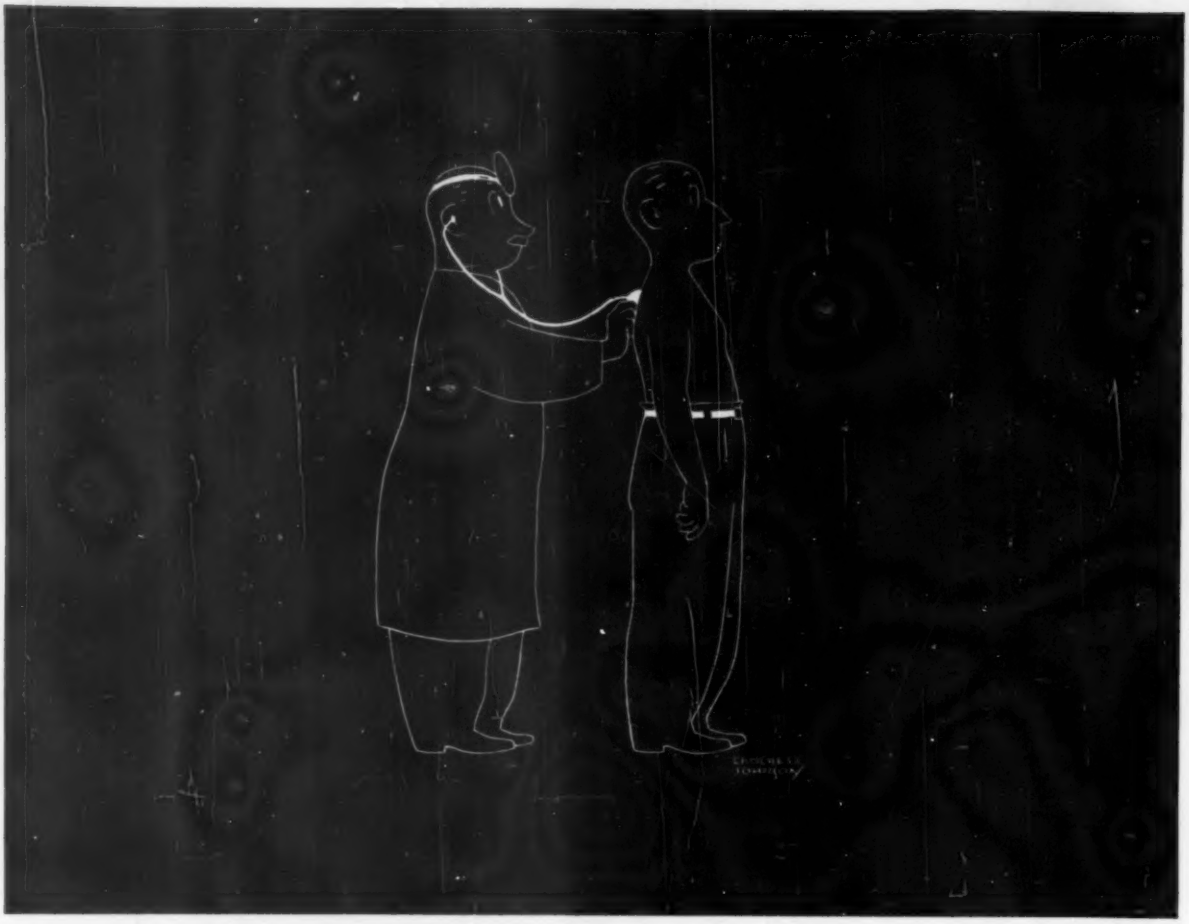

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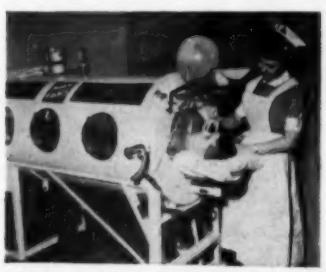

COVER: Student nurse Jean W. DuPont cares for Tommy Meath, Jr. who, stricken with polio, is confined to an iron lung. The respirator, provided by the March of Dimes, is only one example of the services of the National Foundation for Infantile Paralysis. The people of the United States, through contributions to the Foundation, are making possible a continually expanding program of research and patient care.

Formerly Trained Nurse and Hospital Review which was first published in 1888.

Nursing World

Editor
VIRGINIA A. TURNER, R.N.

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News for Nurses

New Study Details Desirable Functions And Qualifications for Psychiatric Nurses

The National League for Nursing has just published *A Study of Desirable Functions and Qualifications for Psychiatric Nurses.* The study, conducted by Claire Mintzer Fagin, R.N., in conjunction with an advisory committee of psychiatric nurses and psychiatrists, lists seven general qualifications for psychiatric nurses.

1. Intelligence, attitudes, and motivations required in psychiatric work, as determined by available criteria
2. An attitude of inquiry into the thoughts, feelings and actions of oneself and others
3. Trained capacity to make inferences and judgments
4. Ability to express a warmth for people and an appreciation of their difficulties
5. Ability to be imaginative and resourceful in limited situations
6. Good health and physical stamina
7. Appreciation and understanding of the special knowledge needed in psychiatric nursing

The study will be most helpful to psychiatric nurses who are interested in comparing their functions and qualifications with those considered desirable. School of nursing faculties will find it useful in curriculum planning. It will also be of special interest to institutions and agencies that prepare job descriptions for psychiatric nursing positions.

The study, financed through a grant from the National Institute of Mental Health, U. S. Public Health Service, was conducted under the Mental Health and Psychiatric Nursing Project of the National League of Nursing Education and the National Organization for Public Health Nursing, both of which are now a part of the National League for Nursing. Copies of the 104-page mimeographed report may be ordered from the National League for Nursing, 2 Park Avenue, New York 16, N. Y. at $1.00 a copy.

New Source Book Covers Fifty Years of Growth In Professional and Practical Nursing

One out of every 400 people in the entire United States population today is working as a nurse, according to "Health Manpower Source Book, Section II: Nursing Personnel," just published by the Public Health Service of the Department of Health, Education, and Welfare.

The 88-page source book covers fifty years of growth in professional and practical nursing, and contains new facts on the nation's nurse supply, many of them never before made public. It is the first comprehensive organization of available information on nurse licensure and employment by states, on the characteristics and educational status of nurses, and on enrollments in and graduations from schools of nursing from 1900 to date. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. at 40c each.

Office of Defense Mobilization Campaigns to Alleviate Hospital Personnel Shortage

The Health Resources Advisory Committee of the Office of Defense Mobilization has issued a statement on personnel shortages in hospitals which is being sent to all administrators, chiefs of medical staffs, and nursing directors, and is being given wide circulation among other professional leaders.

The statement emphasizes the necessity of a broader understanding of the problem and the need for better utilization of hospital personnel. In order to achieve this goal, a Subcommittee on Hospital Services has been appointed to collect.

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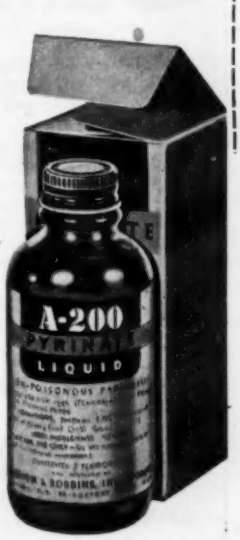

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analyze, and disseminate all available knowledge in the field.

The statement further points out that the demand for nurses is greater now than ever before for the following reasons:

1. Increase and aging in population, a rising economic level, development of prepayment plans, increasing awareness in medical sciences have contributed to this demand.
2. Widespread hospital construction throughout the country, increasing the number of hospital beds, requires additional nursing staff.
3. The improvement of educational programs for house staffs, coupled with the large number of vacancies in internships, has resulted in more duties being delegated to nurses.
4. The constant increase in new and better medical techniques and the increased demand for medical and hospital services has made it necessary for nurses to be trained for and carry out many additional procedures, some of these formerly done only by the doctors themselves.
5. The introduction of new therapeutic procedures requires more clinical instruction of students by qualified nurses and more supervision of them at the bedside of the patient.
6. In line with current personnel policies in other fields, hospitals have decreased the length of the work week. This has resulted in approximately a 20 per cent increase in needed nursing personnel of all kinds.
7. The change in scheduling of hours of nurses to three shifts a day has increased the time which is necessary for the exchange of reports, to avoid a loss of continuity in patient care.

Although recruitment of nurses is very good, the Committee declared that the increased supply cannot keep pace with the increased demand. It is felt that the best way to solve this problem is to devise means of providing adequate care to patients without expanding and, in some instances, by reducing nursing staffs in the hospitals. The Committee suggested some of the steps that might be taken.

1. The "team approach" should be instituted on all levels.
2. Constant attention should be given to leadership skills.
3. Nurses should learn to broaden their concept of patient care, to relinquish to other departments the supervision of institutional services, and to utilize nursing assistants to best advantage.
4. Scholarship funds should be made available to graduate and undergraduate nurses.

In order to make available all pertinent information, the Subcommittee on Hospital Services is preparing a handbook on personnel utilization in hospitals for use by all who are concerned with personnel shortages. The handbook will be made up of a series of pamphlets, each dealing with one specific problem.

ANA Has New Manual for Use in Connection with Model Forms

A manual, developed to assist section committees in the revision of rules, is available upon request from the American Nurses' Association, 2 Park Avenue, New York 16, New York. It explains the principles upon which the rules were based and the pitfalls which must be avoided in revising them. Entitled, "Manual for Use in Connection with Model Forms for Rules for Sections of State Nurses Associations and District Nurses Associations," it replaces the cover green sheets attached to the 1953 model forms for district and state section rules.

Transfers in VA

Catherine Bray is Chief, Nursing Service, at the VA Hospital, Downey, Ill. Formerly, she was educational director at the Northville State Hospital, Northville, Mich. Margaret Buchanan is now Assistant Chief, Nursing Education, at the

VA Center, Mt. Home, Tenn. Prior to this transfer, she was assigned at the hospital in Nashville, Tenn. Velva Chapman is the Chief, Nursing Service, at VA Hospital, Richmond, Va. Before this transfer, she was Assistant Chief, Nursing Service, at VA Hospital, Cleveland, Ohio. Lois Friedlander is the Assistant Chief, Nursing Education, at the new hospital at West Haven, Conn. Prior to this assignment, she was Assistant Director, Nursing Service, St. Raphael Hospital, New Haven, Conn. Frances Magee is the new Assistant Chief, Nursing Education, at the VA Hospital, Lyons, N. J. Prior to this transfer, she was an instructor at the hospital at Montrose, N. Y. Georgia Moss is the Chief, Nursing Service, at the VA Hospital, Roseburg, Ore. She was formerly assigned as Acting Chief, Nursing Service, at that hospital. Anna Pirscenok is now Assistant Chief, Nursing Education, at the VA Hospital, Philadelphia, Pa. Prior to this assignment, she was Director, School of Nursing and Nursing Service, Norristown, Pa. Gerald Phalin is Assistant Chief, Nursing Service, at the VA Hospital, Sioux Falls, S. D. He was formerly a supervisor at that hospital. Nell Redwood is the Assistant Chief, Nursing Education, at the VA Hospital, Gulfport, Miss. Marion Schelheimer is the Assistant Chief, Nursing Service, at the VA Hospital, Murfreesboro, Tenn. Prior to transfer she was a supervisor at the VA Hospital in Lebanon, Pa. Ruth Schwarzwalder is now the Assistant Chief, Nursing Education, VA Hospital, Houston, Texas. Prior to this assignment, she was Director, University of Houston School of Practical Nursing. Menno Stauffer is now Assistant Chief, Nursing Service, at the VA Hospital, Montrose, N. Y. He was formerly supervisor at that hospital.

Navy Nurse Corps Promotions

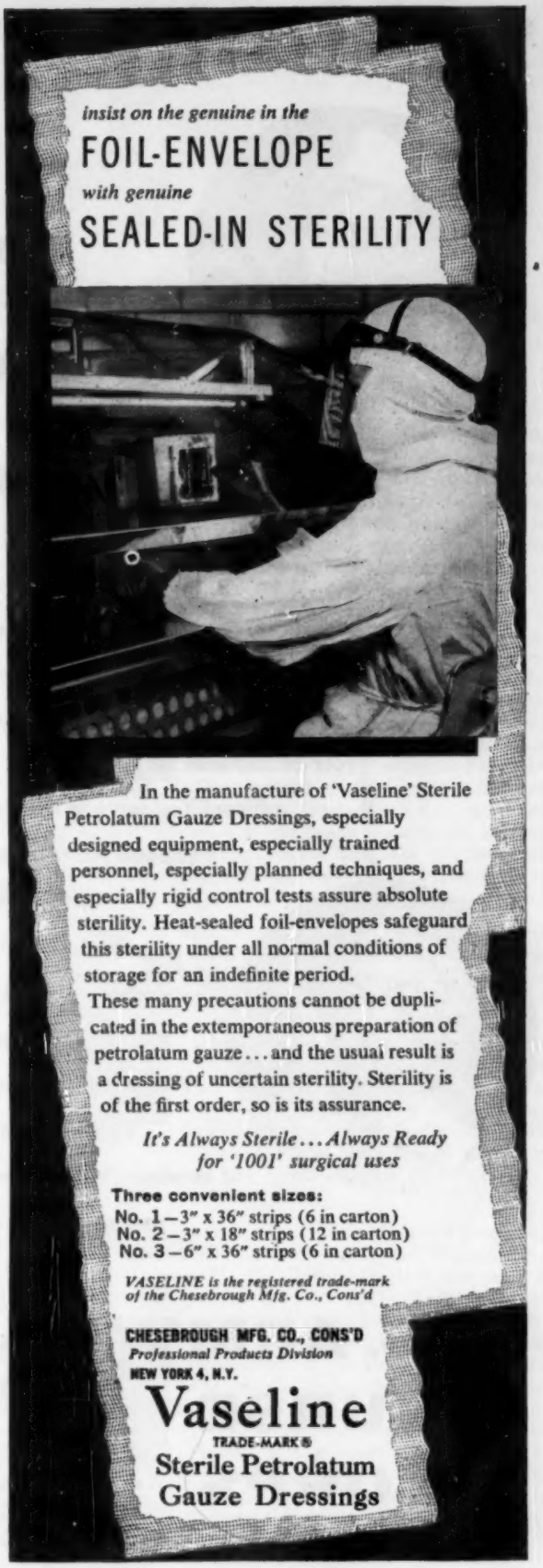
The following have been promoted to Lieutenant: Mary F. Barrett, Margery G. Bierma, Phyllis K. Bohn, Eleanor M. Brady, Florence L. Bryant, Anna J. Burlon, Irene M. Connors, Dolores Cornelius, Elizabeth M. Derocco, Jane Dudinski, Leokadra Szikewicz, Ethel C. A. Eusebio, Lenore S. Feagin, Agnes W. Felts, Martha Flanigan, Bella M. Fritz, Mildred Fugger, Jean L. Furst, Imogene Hathaway, Amalia Haule, Jane Holliday, Joyce J. Hoover, Vila J. Hovis, Mary E. Howard, Ruth M. Humphrey, June G. Johnson, Helen D. Kahle, Patricia A. Kern, Ira L. Lane, Margaret Lariviere, Evelyn L. Marshall, Ruth W. Martin, Rose M. McGrath, Mary V. Mele, Betty J. Murray, Norma F. Neagle, Flora B. Nicholas, Waldena O'Barto, Mabel A. Olson, Gizeea Papp, Patricia L. Ratcliffe, Rosemary E. Reinhart, Margaret R. Richards, Margaret A. Robinson, Elsie M. Rusnak, Margaret M. Ryan, Helen Sekin, Veronica Smith, Elizabeth J. Stapleford, Esther M. Thompson, Norma J. Thompson, Dorothy J. Venverloh, Esther J. Vought, Irene D. Walker, Kathleen E. Ward, Dorothy M. Watt, Helen M. Weber, Weece Wood, and Irene Wujick.

The following have been promoted to Lieutenant junior grade: Thelma Anderson, Anne C. Beck, Jean C. Bonczar, Stella B. Branam, Elizabeth A. Brosnan, Ruth E. Brown, Theresa M. Caron, Diana D. Cheshire, Mary F. English, Mary P. Francis, Marjorie L. Frye, Billie J. Gallineau, Stella R. Georgi, Irene B. Glamkowska, Ellen G. Graves, Emily E. Guillotte, Armanda Herrera, Helen B. Higgins, Marie B. Katch, Margaret L. Kunick, Jean C. Lund, Patricia M. MacInnis, Gloria D. Martin, Theresa M. McLaughlin, Florence M. Meyer, Mary E. Oliver, Betty J. Price, Josephine Ransdell, Aurora C. Sa, Floy I. Smalling, Irene M. Smutny, and Marietta P. Suehl.

Evelyn Stotz Announces Her Marriage

Upon her resignation from the Red Cross Nursing Services staff, Evelyn Stotz announced her recent marriage to Ray D. Farnsworth of Boston, Massachusetts.

(*Continued on page 26*)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In This Issue

Each year, the month of January is devoted to a national appeal for funds to aid the National Foundation for Infantile Paralysis in its research and poliomyelitis patient care programs. This year's program is of special importance to members of the public as well as to the medical and allied professions because the Foundation, in cooperation with public health agencies throughout the country, will be engaged in extensive experimentation to evaluate a polio vaccine. In his annual message, printed below in its entirety, Mr. Basil O'Connor, president of the National Foundation for Infantile Paralysis, expresses his appreciation to nurses for the services they have rendered, and asks for additional cooperation in the fight against poliomyelitis.

"For many years it has been my pleasure, on behalf of the poliomyelitis patients, their families and the National Foundation for Infantile Paralysis, to thank the American nurses for their participation in the poliomyelitis patient care program. This year I would like to renew that expression of gratitude for the high quality of service rendered by all nurses who cared for the poliomyelitis patients or participated in the gamma globulin program during 1953.

"However, appreciation is accompanied this year by a request for further assistance in reaching our goal in the field of poliomyelitis prevention. As you know, in 1954, the National Foundation for Infantile Paralysis in cooperation with Public Health Agencies is conducting vaccine field trials in many communities to assist in the evaluation of a poliomyelitis vaccine. These tests will be directed by the state and local health officers in the selected communities. Even though the health officer is primarily responsible, the success of these field trials will depend on the cooperation of all members of the health team volunteering their services for the clinics to be held in the schools.

"The National Foundation sincerely hopes that each nurse will respond to the community's needs with the same devotion and dedication to service that has justified the respect and honor the American people have for the members of the nursing profession."

For this issue, John E. Affeldt, M.D. and June E. Hansen, R.N., have written an article concerning recent developments in the treatment of poliomyelitis respirator patients. Their discussion, appearing on page 10, emphasizes the newer methods which are being used by the medical profession in caring for patients confined to iron lungs. Dr. Affeldt, chief physician at Rancho Los Amigos Respiratory Center for Poliomyelitis, Hondo, California, did two years of research in the Department of Physiology at the Harvard School of Public Health. He received his medical education at the College of Medical Evangelists in Los Angeles, California.

June E. Hansen, R.N., is co-author of the article dealing with respirator patients and the techniques for stabilizing and weaning them from the iron lung. Now an instructor of nursing in poliomyelitis at Rancho Los Amigos Respiratory Center, she is a graduate of the Nebraska Methodist Hospital and received a certificate in institutional supervision from Colorado University. Miss Hansen served in the United States Navy for three years.

Elaine Wilson, R.N.

Public health nurses Elaine Wilson, R.N., and Charlotte Huff, R.N., discuss, on page 12, the methods used and the findings obtained from a mental health study they recently made. This project, based on reported personality problems among fourth grade children in Salt Lake City, brought to light many significant facts about the teacher's relation to her students. Mrs. Wilson, a public health nurse on the staff of the Public Health Nursing Division, Salt Lake City Board of Health, was graduated from Salt Lake General Hospital.

Charlotte Huff, R.N.

Charlotte Huff, R.N., who collaborated in writing the article concerning "problem" children, is also on the staff of the Public Health Nursing Division of the Salt Lake City Board of Health. The ingenuity which formed the basis of the planning and execution of this study are evidenced by the authors' description of the puppet show which they used as a method of testing the responses and psychological adjustment of the youngsters involved in the survey. Mrs. Huff is a graduate of the Latter Day Saints Hospital, Salt Lake City.

The necessity for and the advantages of an eye protection program in industry are emphasized by Muriel Worley, R.N., in an article on page 21. Highlighting the high cost to both worker and management of eye injury, Miss Worley calls for effective educational programs, administered by the industrial nurse, to eliminate eye hazards in industry. She specifically outlines the responsibilities of nurses in this area. A graduate of the Edward J. Meyer Memorial School of Nursing, Miss Worley is now working towards a B.S. degree in public health nursing at the University of Buffalo. At present, she is employed at Trico Products Corporation, Buffalo, New York.

Muriel Worley, R.N.

NURSING WORLD is the oldest nursing journal in America. It is an independent medium through which nurses may express their opinions to the profession at large.

Recent Developments in the Treatment of Poliomyelitis Respirator Patients

by ***John E. Affeldt, M.D.,*** *Chief Physician,*
and ***June E. Hansen, R.N.,*** *Instructor,*
Rancho Los Amigos Respiratory Center, Hondo, California

DURING the past few years, advances in knowledge, techniques, and equipment for the treatment of bulbar and bulbospinal poliomyelitis patients have resulted in a decrease in mortality rates from over 50 per cent to less than 20 per cent. Some hospitals have reported a rate as low as 13 per cent. This is due mainly to improved understanding, combined with earlier and greater use of tracheotomy and respiratory equipment.

Nursing responsibilities now include a knowledge of the fact that symptoms often are the result of inadequate ventilation. Signs of air hunger and the use of secondary muscles of respiration must alert the nurse to the development of medical complications, and must make her aware of the need for respiratory assistance. However, because the possibility of paralytic involvement of these muscles renders these objective observations inadequate at times, the need for a more positive means of evaluation has become apparent. Herein is established a need to recognize the breathing or vital capacity of each patient's lungs.

A mechanical means of measuring the vital capacity seems to be a simple, accurate and convenient method of determining the respiratory muscle status. Ventilation meters designed for this purpose are commercially available, and most hospitals have BMR machines which can be used for this purpose by removing the valves and the CO_2 cannister in order to lower resistance to breathing. When the vital capacity drops to 35 per cent of predicted normal (as determined from published tables), the patient should be given mechanical respiratory assistance. This will aid the patient before changes in ventilation, which would result in anoxia and respiratory acidosis, occur.

According to the vital capacity standards, a male adult, sixty-nine inches tall, would have an expected vital capacity of 4,370 cc.; an adult female, sixty-five inches tall, would average 3,300 cc. The measure for children includes an age factor as well as height.

Serial measurements indicating the progress of the disease can be used as a fatigue test to determine the spontaneous breathing ability, and, as a result, they can guide the weaning program after the acute phase.

When the need for respiratory assistance is established, the maintenance of proper ventilation is of paramount importance. The amount of air which is inhaled or exhaled during the average breath for adults is usually between 350 and 500 cc. This is defined as tidal volume. When this amount is multiplied by the number of breaths per minute, we get the minute volume. Measurements of tidal volume being produced by the respirator are essential to determine the proper rate and pressure to be used.

The most sensitive and accurate measurement of the need for ventilation is the arterial carbon dioxide partial pressure. Fortunately, the alveolar and arterial values are nearly identical. A technique has been developed whereby the alveolar CO_2 can be easily and rapidly measured using an infrared CO_2 analyzer. This requires only a small catheter in the nose or a tracheotomy tube. The total test requires but one or two minutes, and there is no inconvenience to the patient.

Respiratory Rehabilitation

Because of the increasing number of severe poliomyelitis patients and the lowered mortality rate, the number of chronic respirator patients is increasing rapidly throughout the country. To provide active rehabilitation for these patients, the National Foundation for Infantile Paralysis has developed several regional respiratory centers, strategically located in conjunction with medical and research centers.

Techniques for weaning patients from the tank respirator have been developed through studies that are being made at these centers as well as other hospitals. The improved efficiency and increasing use of cuirass respirators and rocking beds have helped to provide a means of weaning for short periods of time or permanently, despite complete loss of breathing ability. There are many advantages to the patients when they can be out of the tank at intervals.

Here lies a challenge seldom equalled in the nursing of patients with long-term illnesses. The seriously involved respiratory patient can be freed at least partially from the tank respirator. The use of the rocking bed further allows stimulation of circulation, thereby reducing edema and the tendency toward develop-

Gerald Treat, fourteen-year-old respirator patient, is cared for by nurse Gladys Ruppenthal.

ment of pressure areas. In contrast to previous confinement, the patient can now assume less restricted positions and eliminate many contractures. Nursing procedures may be performed effectively while the bed is in motion, and the patient's morale is often boosted. Fatigue is an important factor regulating the length of time the patient may receive this type of treatment. It should be used, at first, for short periods, and then the length of time may be increased gradually. The total procedure involves correlation of the medical, nursing, and physical therapy aspects.

The team concept, which is being broadened in these centers, has demonstrated the advantages of grouping the patients for care by the general nursing staff and auxiliary personnel. Much of the actual care of these patients may be delegated to nurses' aides who have been thoroughly oriented and who understand their responsibilities in poliomyelitis care as well as the mechanics of the equipment. This practice is conducive to promoting job satisfaction among auxiliary personnel, and makes them feel that they are an important part of the nursing team.

By instituting general staff care for respiratory patients, many impending problems may be averted. For instance, care by one individual often results in dependence upon that person. This may be followed by a lack of interest, on the part of the patient, to actively participate in his own rehabilitation. Early introduction of a progressive self-help routine is stimulated through group care, and the social outlook is broadened. There is the additional advantage of economy in terms of nurses and the cost of care.

Glossopharyngeal Breathing

Glossopharyngeal breathing is one of the latest techniques to become available. Some patients have unconsciously developed it, and many others are being taught. The advantages include the confidence a patient gains when he realizes that he has some control of breathing. A considerable volume of air can be built up in the lungs, enabling him to cough, talk normally, and to take a deep breath. This increases the flexibility of the chest.

Patience and frequent practice are essential for learning this method of breathing. The patient is instructed to draw a small amount of air into the mouth, open the larynx by yawning, and the stroke is completed by a pumping action of the tongue which forces air through the open larynx. A repetition of these respiratory strokes produces a large breath which is then allowed to escape. This is repeated six or seven times a minute, and provides adequate ventilation. It acts as a substitute or supplement for regular breathing, and further provides a margin of safety for those patients dependent on mechanical equipment.

Martha Curry gives Richard Ryman, whose collection of insignia adorns his iron lung, a drink.

Pulmonary Complications

The patient with severe respiratory muscle paralysis cannot cough and thereby keep his airway clear. Excess mucus, saliva, and impaired swallowing add to the difficulty. The result is repeated pulmonary infections with pneumonia and atelectasis. The necessarily prolonged use of antibiotics results in the prevalence of the Proteus vulgaris and Pseudomonas organisms, which may become pathogenic and insensitive to most antibiotics. Such infections are the greatest cause of death beyond the acute stage of poliomyelitis.

The use of tryptar, locally via the bronchoscope, and nebulization are most helpful in the treatment of prolonged atelectasis. Intrapulmonary medications may be introduced by a nebulizer connected to the positive pressure apparatus or by pressure from an oxygen cylinder. The tracheotomy adapter, face mask, or an oral plastic tube allow various methods for application. This procedure is followed by rotating the patient and placing him in trendelenburg position. Deep coughing is accomplished immediately by the use of maximum intratank negative and positive pressures for a short time. Mechanical coughing also may be induced in the tank respirator by use of a vacuum cleaner. The hose attachment is connected through a porthole increasing the negative pressure to not more than 40 mm. Hg. At the maximum peak of negative pressure, the bedpan port is opened, causing a rapid expiration which similates a cough. Because of the increased pressure, it is important to allow the bedpan port to remain open for the next complete respiratory cycle. It is then closed, and the procedure is repeated. By allowing each alternating breath to be omitted, the respiratory rate is reduced 50 per cent. This compensates for increased pressures and prevents hyperventilation. Seven or eight "coughs" may be given before returning the negative pressure to normal. Close observation of the patient is necessary at this time and may be maintained by use of the swivel mirror at the head of the respirator. The patient should be instructed to open the glottis just before expiration. A second person should be on hand during the treatment to observe the patient and the suction as needed.

Home Care

Despite the many advances and improvements, there are a certain number of patients who cannot be free of respiratory equipment. Because of this, they need not be confined to a hospital for the rest of their lives.

Some hospitals and committees have established services enabling the severe but stabilized respirator patient to go home safely. The service provided includes emergency and maintenance mechanical coverage, nursing and attendant service, housekeeper help, physical therapy, occupational therapy, medical care, and periodic return for evaluation and treatment of complications.

Early investigation of the home situation and complete planning before discharge helps prevent problems from arising. It has been found that one way to provide adequate orientation to the family and attendant is to have them spend some time on the hospital ward to observe and assist in the care of the patient. They also should attend classroom lectures and demonstrations.

This program provides a maximum of social benefits for these patients, reduces the cost of care, and frees hospital beds for new patients.

Teacher's arrival ends the singing of Woolly and Early Bird. As she tells Woolly he will not be allowed to play Run Sheep Run because he is tardy and sleepy, Early Bird listens from the safety of a nearby tree.

The Puppet

MENTAL health is an intriguing study in all its aspects, but nowhere within the scope of human behavior does it offer more challenge and fascination than in the child whose mental pattern appears to deviate from the so-called normal. Every public health nurse who works in a school recognizes this. She does so because a portion of the referrals that come to her have as their basis the "problem" child. If the public health nurse is an individual whose acuity of recognition is developed, if she is aware of the confines and limitations of her responsibilities, and if her sense of balance and insight is accurate, then she is in an excellent position to obtain help for these cases. The channeling of children and parents to units where aid is available is her job, and it is sometimes a very difficult one.

Relative to this situation a mental health project was conducted recently in Salt Lake City. The increasing number of referrals made the study both advisable and timely. It was focused in its entirety on one school and on one grade where the public health nurse had been concerned about the number of emotional problems brought to her attention by the teachers. The fourth grade was chosen, because it seemed that the majority of interesting personality problems were concentrated in this age group.

Referrals and complaints started the day school began, so the project took on its basic outline early in the school year. Our wish was to define which children had definite problems and which did not, which were being slated as "problems" because of teachers' attitudes and conduct and which were not, which children were problems to teachers, to parents, and to other children.

The first step was to clear and obtain permission from the Board of Education and from the Board of Health. Following this, we contacted the principal and teachers in the school, the parents of the children, and the phychiatrists and psychologists in the child guidance center. The theory upon which the project was based and its aim were presented to all these people. When their approval, criticisms, and suggestions were obtained, the definitive part of the program was begun. The public health nurse conferred with one psychiatrist and one psychologist, both of whom were chosen from the psychiatric unit of the city to steer and offer advice concerning the project and the best method by which to approach it. The philosophy of the psychiatric approach was to get in touch with every person who had daily periods of contact with each of the students in the study. This was done in an effort to correlate information from these groups and to distill from this data pertinent material relative to focusing on individual children and teachers as their needs became apparent.

Questionnaires were made up for the teachers and for the parents. The list for teachers was sent out first. The contents of this questionnaire were as follows:

You have been a teacher for some time, and you have dealt with all kinds of children, tincluding those with definite problems.

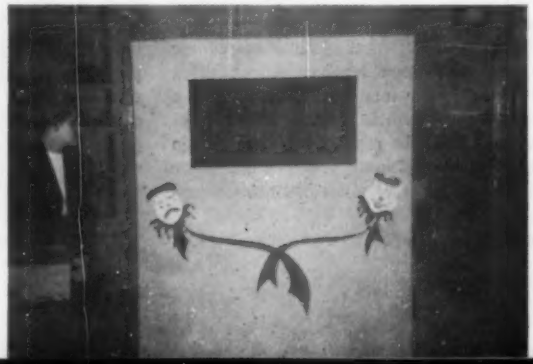
1. Would you think about your class and list, under group one, the names of those you think are problem children? Would you also briefly describe why these children present a problem?
2. Would you list, in group two, those youngsters that you think may develop problems. Please state your reasons for the conclusions drawn in each case.
3. In group three, name those youngsters who seem to present no problems.

Four teachers of the fourth grade filled out these lists. The papers were returned to the psychologists, and the answers were categorized according to the child and according to the group questions. This first questionnaire identified those children who appeared to be the substance or nucleus of the problem group, i.e. specific children in the fourth grade presenting, according to the opinion of their teachers, fairly well-defined areas of difficulty. Here, a very interesting thing was shown. Several of the teachers named as many as one out of every three children in their classes as problem children. The rest of the teachers named problem children in a ratio of about one out of every eleven children. Youngsters listed in group three were, of course, in the majority.

A questionnaire was sent to the parents. It consisted of the following:

As you know, the ——— School P.T.A. is cooperating with our public health nurse in order to do a research study on the fourth grade. The study concerns the problems children may bring to school or find there. We all have problems, or at times, we may all be problems to other people. Teachers can be problems to children just as easily as children can be "problems" to teachers or to parents. Therefore, will you answer the following questions. Your comments will be held in complete confidence. Please check only one answer to each question.

1. Do you consider that your child has "average" children's problems? ☐
Do you consider that your child *has more* than average problems? ☐
Do you consider that your child is a "problem" child? ☐



Just before curtain time of the "Tardy Lamb," a puppet show in two acts. The scarlet curtains are accentuated by a blue stage which is complete with the comic and tragic faces.

Prepares

Woolly listens respectfully as mother lamb lectures concerning his bad habits, his future, and the things his parents expect him to accomplish. Hastily, she sews a button on his coat as she talks about his behavior.

by Elaine Wilson, R.N., and Charlotte Huff, R.N.
Public Health Nursing Division, Salt Lake City Board of Health

2. Do you think that one or more of your child's present teachers contributes to making him or her a "problem" child? ☐

3. As far as "problem children" are concerned, do you think, generally, that one out of every ten children is a problem child; ☐
five out of every ten children are problem children; ☐
nine out of every ten children are problem children? ☐

Your cooperation is extremely important for the future school health program. Will you mail this at once in the enclosed, stamped envelope?

Thank you for your interest in your P.T.A.'s efforts to secure better health for all school-age children.

Of 128 lists sent to the homes, 128 were returned completely filled out. Some parents responded only to prodding by telephone and a home visit by the public health nurse, but the all-out return was surprising and gratifying. This series of answers was taken to the psychologists, and once again answers and children were categorized. Information brought out here concerned the attitudes of parents towards their children. It also identified the teachers who were considered, by the parent, to be a problem to the child.

The picture of the fourth grade group was beginning to crystallize, for a portion of the youngsters named as "problems" by teachers also were considered so by the parents. Gradually, the list took on a well-defined grouping pattern. It became apparent, at this time, that the teachers' attitudes towards children were reflections of their own problems and, therefore, those teachers who named at least one out of every three youngsters as a problem were suspected of having repercussive personal problems.

The third portion of the study was now ready to be put into operation. This had to do with the questioning of the children. Rather than giving them a list of questions to answer or check, they were treated to a puppet show. (The show took a great deal of time and effort, both in its construction and presentation. The public health nurse contacted the members of the Junior League, who agreed to make the puppets and the props.) A script, depicting domestic scenes with which most children would be familiar, was written. The script was left unfinished and, during the private interviews which each child had with a psychiatrist or a psychologist following the show, the youngsters were asked a series of questions pertaining to the show and their feelings towards it.

The puppet show was an amusing tale concerning a school-age lamb named Woolly. It featured his mother who was always telling Woolly how sleepy and lazy he was and who was habitually late herself. It concerned the Early Bird whose wise advice to Woolly was ignored, even though it was accompanied by guitar melody. Also, it concerned Woolly's school teacher who scolded Woolly for his chronically sleepy eyes and tardiness.

Ten individuals from the department of psychiatry at the Salt Lake General Hospital reported to the school to see the puppet show and to interview privately every child in the fourth grade. Questions asked the youngsters by the psychologists and the psychiatrists were:

1. What was the story? What happened?
2. Which sheep did you like the best? Why?
3. How did the mamma sheep feel about the lamb?
4. How did the teacher feel about the lamb?
5. How did the lamb feel about Mamma? Teacher?
6. How could things be better?

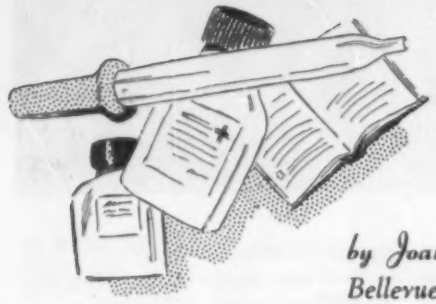
Pupils of the teachers, who had named one out of every three children as "problems," identified themselves with the lamb, Woolly. However, the children who had more lenient teachers were candid in pointing out that the teacher and the mother in the play were the offending parties.

Elizabeth Z. Johnson, psychologist, who had been active in the program from its inception, categorized these answers. Of the 128 youngsters in the fourth grade, eleven seemed to be definitely in need of guidance and help. Even more interesting was the fact that the teachers involved with these children were possibly in need of some help regarding themselves and the children with whom they dealt.

Thus, it was obvious that aid had to be channeled not only to children listed or identified as "problems" but also that the teachers were in need of some help and interpretation. It is anticipated, therefore, that the project following this one will concern itself with getting the teachers, the principal, the public health nurse, and a psychologist or psychiatrist together in order to discuss "problems," attitures, and various methods of interpretation. The public health nurse will try to arrange meetings, possibly monthly affairs, during which round table discussions will deal with specific problems and their solutions.

Our initial project was very constructive. We received cooperation from every quarter, and, presently we are looking forward to incorporating our findings into next year's activities.

Woolly meets Early Bird who has some advice and a bit of music: Late to bed late to rise makes tardy lambs with sleepy eyes. To be successful, smart and strong, take this advice.



Advances and Trends in Drug Therapy

by Joan Sarvajic, R.N., Instructor in Pharmacology, Bellevue Schools of Nursing, New York City

The Current Status of the Sulfonamides

IN SPITE of the very important contribution made by the existing antibiotic armamentarium in the field of infectious diseases, there is ample experimental and clinical evidence that the sulfonamides still play a specific and important role in the prevention and treatment of infection.

Chemotherapy has not passed its zenith. On the contrary, at least four factors have given added impetus to chemotherapeutic research: first, accumulation of further data concerning the specificity of the various chemotherapeutic agents; secondly, the addition of an effective, highly soluble and relatively non-toxic sulfonamide, sulfisoxazole or gantrisin; thirdly, the discovery and application of the sulfonamide combination principle; and fourthly, growing recognition of the fact that the antibiotics and chemotherapeutic agents are complementary rather than competitive.

Specificity of Sulfonamides

In reference to the specificity of the sulfonamides, clinical research indicates there are many instances in which the chemotherapeutic agents are superior to the antibiotics. The sulfonamides are indicated in the treatment of proteus infections, the bacterial forms of diarrhea, urinary tract infections, actinomycosis, and bacterial infections of the respiratory tract. None of the antibiotics has been found superior to the sulfonamides in the treatment of infections due to the meningococcus. The sulfonamides are less likely to produce drastic changes in the normal bacterial flora of the body than are the antibiotics. This fact makes the sulfonamides particularly suitable for long-term suppressive therapy in rheumatic heart disease.

The discovery of the much more soluble and much less toxic sulfonamide, sufisoxazole or gantrisin, has done much to dispel the adverse criticism of the public, in many cases unfounded, concerning the toxicity of the sulfonamides.

The Sulfonamide Combination Principle

Perhaps some of the most illuminating research done in recent years has been that concerned with the sulfonamide combination principle. As reviewed by Sophian, Piper, and Schneller, in their recent (1952) publication, *The Sulfapyrimidines*, the theoretical basis for the joint use of two or more sulfonamides is that antibacterial action can be heightened by combining these drugs, without proportionately increasing the hazard of producing side reactions. Differently stated, the potency of the combination would be at least equal to the sum of the potencies of the component drugs, but the possibility of side reactions, if any, would be smaller than that existing when equivalent full doses of a single sulfonamide are given. A five-year investigation of the relative merits of single and multiple sulfonamides led, in 1949, to the acceptance of preparations containing two or three sulfonamides.

Earlier investigation by Lehr, of the Department of Pharmacology at New York Medical College, had advanced the suggestion that sulfonamide mixtures might result in augmented antibacterial activity. The application of the mixed sulfonamide combination principle pointed the way to possible mitigation, if not elimination, of two factors which hitherto had limited the clinical effectiveness of the sulfonamides. These were: first, the difficulty occasionally encountered in the blood and tissues; and second, the tendency of a single drug to cause crystalluria with resultant renal blockage. When mixtures of two or more sulfonamides are introduced into the body, each sulfonamide reaches the blood stream, is diffused, and is eventually excreted quite independently of the others. Thus, the administration of sulfonamide mixtures results in high and well-sustained levels in the blood and in the urine. Sulfonamide mixtures offer the advantages of a small dose of each component, favoring absorption and excretion, and of a large total dose, providing high antibacterial potency.

Triple Sulfonamide Combinations

The greater part of the early experimentation with the use of the combined sulfonamides was based upon experience with only two of the drugs in combination. Lately, attention has shifted to studies in which three sulfonamides were employed. As far back as 1947, Lehr concluded that triple mixtures were safer than dual ones. To him, the evidence was so conclusive that he felt the adjuvant alkali could safely be eliminated when employing triple combinations. In recent experiments with human subjects, Lehr studied the absorption and excretion rate of a triple sulfonamide mixture compared to gantrisin, as reflected in the height and duration of blood concentrations following a single oral dose. The average blood levels obtained with mixtures (sulfadiazine, sulfamerazine, and sulfamethazine) were higher and were maintained better than those with gantrisin. To summarize, the argument supporting the use of mixed sulfonamides is that the heightened effect of a large dose can be achieved while the risk of inducing toxic reactions is minimized.

Chemotherapeutic Agents and Antibiotics

The case for mixed therapy with joint use of antibiotics and sulfonamides still rests largely upon theoretical grounds and is likely to remain so until more is known of the mechanism of antibacterial action. However, it is known that various antibacterial agents, under certain conditions, support and supplement one another. These conditions have to do with the characteristics of the infective organism and with the properties of the drugs being used. Dowling has outlined these factors as follows:

1. Where more than one species of bacteria is present in an infection, the agents might be effective, respectively, against several or all of the species present.

2. Since different agents vary in their ability to penetrate into different areas of the body, employment of two or

more drugs increases the dispersion through the tissues.

3. The side effects sometimes resulting from administration of large amounts of a single drug might be prevented, with no loss of therapeutic effectiveness, by giving smaller doses of two agents.

4. Employment of second agent might delay or prevent the survival of organisms which would be resistant to a single agent.

At present, attention is being focused on studies pertaining to the combined use of sulfonamides and penicillin. Penicillin has been singled out because its potentialities in this kind of therapy are typical of antibiotics in general. The marketing of products containing sulfonamides and penicillin in single dose form probably makes this the most accessible type of combined sulfonamide-antibiotic therapy. For those who are penicillin-sensitive, or in instances where the organisms are apparently penicillin-resistant, erythromycin (Ilotycin), a sulfonamide combination, is also on the market. Some work has been done on the combined use of sulfonamides and streptomycin, but streptomycin obviously does not lend itself as readily to joint use with orally administered drugs. Aureomycin, on the other hand, in view of its stability in the pure crystalline form, its relatively low cost, and the ease with which it is administered orally, shows promise of extending the range of combined sulfonamide-antobiotic therapy.

Mechanism of Activity

Experimental investigation with combined sulfonamide and penicillin therapy has not yet reached the point where all factors concerning the coordinated activity of the two drugs are fully understood. The suggestion has been made that the sulfonamides may enhance the activity of penicillin by inhibiting the bacterial production of penicillin-destroying enzymes. Lawrence, in a recent review (1952) of the status of combined sulfonamide-antibiotic therapy, presented the generalization that when the infective bacterial strain is about equally sensitive to the two agents, the effect is additive or synergistic.

Although it is not possible to derive a clear-cut picture of the manner in which jointly administered sulfonamides and antibiotics act against infective organisms, the clinical results suggest the need for more extensive trial. Dowling has stated some basic precepts governing the joint use of different antimicrobial agents:

1. Combinations should not be used in shot-gun fashion, on the theory that if one agent is effective, two or more should be proportionately more effective. In many cases, a single broad-spectrum antibiotic, such as aureomycin, will prove more efficacious in treating mixed infections than a combination of less versatile drugs.

2. When combinations of antimicrobial agents have been found effective in a given disease, these same combinations may be used routinely in all cases of the disease.

3. Where individual agents have been found ineffective in the treatment of a given patient's infection, or when resistance of the organism to the agent is demonstrated *in vitro*, tests should be made *in vitro* to find an effective combination of agents.

In Vivo Studies

The literature describing results of *in vivo* studies tends to confirm the thesis that there is cooperative activity between sulfonamides and antibiotics. There is said to be no antagonistic action between the components of a sulfonamide-antibiotic combination. One drug will act upon strains of an infective organism resistant to another. There is a time lag between the onset of action by the antibiotic and that of the sulfonamide. Research further indicates that the mechanism of action by which one drug acts is different from that of another.

The procedure most generally followed in testing the cooperative activity of antibiotics and sulfonamides *in vivo* consists of infecting groups of mice with a specific organism and the administering the antimicrobial agents at given dosage levels, alone and in combination. The effectiveness of the treatment is determined by the number of animals surviving at a given time. An example of typical findings, demonstrating cooperative activity between penicillin and sulfadiazine in hemolytic streptococcus (Group A) infections in mice, is abstracted in the following table as reported by Kolmer:

COOPERATIVE ACTIVITY OF PENICILLIN AND SULFADIAZINE IN HEMOLYTIC (GROUP A) INFECTIONS IN MICE

DRUG	TOTAL DOSAGE Penicillin	TOTAL DOSAGE Sulfadiazine	PER CENT SURVIVALS
Penicillin alone	360*		90
	240		70
	120		30
	60		0
Sulfadiazine alone		24.0**	30
		12.0	10
Penicillin and sulfadiazine	240	12.0	100
	120	12.0	70
	60	12.0	30

*Units per mouse
**Mg. per mouse

Favorable clinical results from this type of combined therapy have been reported in the treatment of pneumococcic pneumonia, meningococcic meningitis, pneumococcic meningitis, and streptococcal and staphylococcal meningitis. The most striking results achieved with this type of therapy have been seen in the treatment of relatively rare infections by one or more organisms and those of undetermined or mixed etiology.

The sulfonamides are now entering their third decade of use. Re-evaluation of their status indicates their advantages, such as specificity in infections, simplicity of administration, and low cost of therapy, (approximately one-fourth that of the antibiotics). Current clinical experience also indicates that the sulfonamides can be used advantageously in combination with each other as well as in combination with other antibiotics. Repeated tests with the sulfonamides, both in the laboratory and the clinic, continue to demonstrate that in the fields of activity in which they have been intensively used by the medical profession, they remain outstandingly efficient. The facts indicate acceptance of this view, despite the fact that the discovery of such antibiotics as penicillin, streptomycin, aureomycin, and terramycin has tended to overshadow the original great discoveries in chemotherapy.

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SULFADIAZINE — **CHEMOTHERAPEUTIC AGENT**

DESCRIPTION: Sulfadiazine consists of a pyrimidine nucleus attached to sulfanilamide.

MODE OF ACTION AND EFFECTS: Sulfadiazine, as all other sulfonamides, inhibits the multiplication of the invading organisms and allows the normal cellular defensive mechanisms of the body to suppress the infection. The available evidence indicates that the sulfonamide derivatives exert their antibacterial effects by competition with certain substrates which are essential for the multiplication of the affected bacteria. This substrate is probably para-aminobenzoic acid, which plays a role in the metabolism of many bacteria and which resembles sulfanilamide in its chemical structure. Because of this resemblance, it is assumed that the enzyme system of the bacteria combines with the sulfonamide instead of with its normal essential constituent, para-aminobenzoic acid, and that further metabolic activities, upon which multiplication depends, remain in abeyance.

Sulfadiazine is absorbed readily and it is easy to maintain a sufficient concentration of the drug in the blood stream. In the liver, it is conjugated to the acetylated form in lesser degree than sulfathiazole or sulfanilamide, and its acetyl derivative is unique in that it is more soluble than the free form. It is excreted rapidly by the kidneys and does not accumulate in the blood stream. Its concentration in the cerebrospinal fluid is about 70 per cent of that in the blood.

ASSOCIATED THERAPEUTIC USES: It is fairly easy to reach a sufficient blood level with sulfadiazine, and hence, it is effective clinically in pneumococcic and streptococcic infections, in infections of the urinary tract, and particularly, in meningococcic meningitis.

AVAILABLE PREPARATIONS: Sulfadiazine is marketed in oral tablets of 0.5 Gm. It is also marketed as the sodium salt for intravenous injection.

THERAPEUTIC DOSAGE AND ADMINISTRATION: Sulfadiazine is administered orally in initial dosage of 2.0 Gm. followed by subsequent doses of 1.0 Gm. every four hours. The dosage for intravenous injection of sodium sulfadiazine is comparable.

TOXICITY: The general toxicity of sulfadiazine is relatively low so that it has, to a large extent, displaced the older sulfonamides. If toxicity occurs, however, anorexia, nausea, and vomiting are probably secondary to the effects of the drug on the central nervous system. Dermatitis, consisting of a morbiliform rash, sometimes follows the use of the sulfonamide compounds. Hemolytic anemia, leukopenia, granulocytopenia, thrombocytopenia, are the more serious toxic manifestations. Crystalluria occur rarely during sudfadiazine therapy.

PRECAUTIONS: As with other sulfonamides, toxic effects in man represent idiosyncrasies to the drug. In sensitive individuals, the administration of even half a gram of the drug may cause, in an hour or two, a rise in body temperature, headache, nausea, and other evidences of acute toxicity. Rarely, reactions suggestive of anaphylaxis may occur. If this does happen, the nurse should be prepared to administer epinephrine or antihistaminics, as ordered. Since sulfadiazine is eight times as soluble at a pH of 7.5 than at a pH of 6.5, it is obviously desirable to maintain the urine in an alkaline state during therapy in order to avoid crystalluria. This is done by the concurrent administration of sodium bicarbonate or other alkalinizing salts. It is imperative that the urinary volume be maintained above 1,500 cc. to avoid an undue concentration of the drug which would favor its deposition.

GANTRISIN — **CHEMOTHERAPEUTIC AGENT**

DESCRIPTION: Gantrisin is a soluble sulfonamide. Chemically, it is 3,4-dimethyl-5-sulfanilamido-isoxazole, later given the generic name, sulfisoxazole, and the trade name, gantrisin.

MODE OF ACTION AND EFFECTS: The primary action of gantrisin, as of all of the sulfonamide derivatives, is bacteriostatic. This drug has the property of high solubility in neutral and in acid solutions and is, therefore, not apt to induce renal obstruction. About 70 per cent of sulfisoxazole is excreted in a free form which has greater bacteriostatic activity and is more soluble than the acetylated portion of the sulfonamides.

ASSOCIATED THERAPEUTIC USES: Gantrisin is frequently selected as the drug of choice in urinary tract infections, particularly those caused by proteus vulgaris. It is frequently used as a routine prophylactic measure for patients with indwelling catheters, as well as in pre and postoperative and postpartum prophylaxis. Gantrisin is also employed in bacterial intestinal infections, respiratory infections, and for use in combination with streptomycin as a means of decreasing the development of resistant strains of bacteria.

AVAILABLE PREPARATIONS: Gantrisin is marketed in oral tablets of 0.5 Gm.

THERAPEUTIC DOSAGE AND ADMINISTRATION: Gantrisin is usually given orally, but, in many cases, it is administered intravenously, and occasionally, intramuscularly or by hypodermoclysis. The usual adult dosage is 1.0 Gm. every four hours except in serious infections in which case larger doses are used. In children, the dose is approximately 0.1 to 0.2 Gm. per kilogram of body weight per day. The intramuscular injection of 3.0 Gm. as a single dose produces a blood level of 10 to 15.0 mg. per cent lasting eight hours. An attempt is made to maintain blood levels of approximately 10 to 20.0 milligrams per cent. These usually are maintained on a daily intake of 6 or 7.0 Gm.

TOXICITY: Serious toxic reactions and undesirable side reactions to gantrisin are rare. Rare instances of dermatitis apparently due to the drug have been seen. A summary of side reactions to sulfisoxazole therapy and the number of patients affected, as reported in available published literature, follows: dermatitis, 15, nausea, 14, microscopic hematuria 13, headache 12, leucopenia 12, unspecified 11, neusea and vomiting 9, hypoprothrombinemia 8, fever 6, crystalluria 5, generalized malaise 4, agranulocytosis 3, gross hematuria 2, nephritis 1, tingling sensation 1, and vertigo 1.

PRECAUTIONS: Gantrisin appears to be the sulfonamide of choice as far as effectiveness and freedom from side reactions are concerned, particularly when fluid intake and pH of urine cannot always be controlled and where frequent blood counts are impractical. If the patient is hospitalized, however, encouraging fluids, especially if the drug is being given in the urinary tract infections, is an important responsibility of the nurse. Urinalysis and blood count should also be ordered for the hospitalized patient.

TRIPLE SULFONAMIDE MIXTURES — CHEMOTHERAPEUTIC AGENT

DESCRIPTION: Triple sulfonamide mixture, known as Met-Dia-Mer-Sulfonamides, N.N.F., employs the three sulfonamides, sulfadiazine, sulfamerazine, and sulfamethazine in a 1:1:1 ratio. Most of these mixtures also include solium citrate as an alkalinizing agent.

MODE OF ACTION AND EFFECTS: The principle underlying the utilization of mixed sulfonamides is dependent upon clinical investigation which reveals that the solubility and the antibacterial activity of the individual sulfonamides are additive. From the beginning of the use of combinations, sulfadiazine has been the common denominator of all sulfonamide combinations. This is because sulfadiazine is the least plasma-bound, most diffusing, and least acetylated. On the basis of its excellent clinical record, sulfamerazine qualified as the second component of the mixture. Sulfamethazine was selected as the third component of the mixture because of its solubility, high potency, and low toxicity.

ASSOCIATED THERAPEUTIC USES: Triple sulfonamide mixture is utilized in infections caused by hemolytic streptococci (Lancefield Group A), alpha hemolytic streptococci ("mouth varieties"), staphylococci, pneumococci, meningococci (including the carrier state), gonococci, Friedlander's bacillus (Klebsiella pneumoniae), hemophilus influenzae (Pfeiffer's bacillus), shigella madampensis, escherichia coli, dysentery bacilli, and actinomyces. In a recent review of the status of the various antibacterial agents used in the treatment of urinary tract infections in the female, it was noted that triple sulfonamide mixtures are effective against a greater variety of causative organisms than are most of the antibiotics. In cases of simple acute cystitis, the sulfonamides are effective against a majority of the pathogens involved, with the exception of alpha streptococcus fecalis.

AVAILABLE PREPARATIONS: Sulfonamide mixtures are marketed by Abbott as Truozine Dulcet Tablets containing 0.1 Gm. of each sulfonamide. Also, there are high potency Truozine Tablets for adults containing a total of 0.5 Gm. of the three sulfonamides, and it is available in Truozine Suspension for children containing 0.1 Gm. of each of the sulfonamides per teaspoonful. These mixtures are also marketed as Sulfatryl by Wampole and Company in bottles containing 42.0 Gm. of dry-flavored granules to which 60.0 cc. of water are added to form a suspension.

THERAPEUTIC DOSAGE AND ADMINISTRATION: These are oral medications and, for adults, about 3.0 to 4.0 Gm. total sulfonamides are administered as an initial dose, followed by 1.0 Gm. every six hours. This dosage is continued until temperature, pulse and respiration remain normal for at least 72 hours. For children, the initial dose of 65 to 100.0 mg. per kilogram of body weight is administered, followed by one-fourth the initial dose every six hours.

TOXICITY: Studies have been made of patients receiving triple sulfonamides. Urinary alkalinizers were not administered in these cases, but fluid intake was 2000 cc. or more daily. No serious toxic reactions were noted.

PRECAUTIONS: It is the responsibility of the nurse to encourage the patient to drink plenty of fluids and to administer the medications on time so that effective blood levels of the drugs may be maintained.

TRIPLE SULFONAMIDES & PENICILLIN — CHEMOTHERAPEUTIC-ANTIBIOTIC AGENT

DESCRIPTION: This medication combines the antibacterial effectiveness of oral penicillin with the triple sulfonamide mixture of sulfadiazine, sulfamerazine, and sulfamethazine.

MODE OF ACTION AND EFFECTS: Since it appears that penicillin acts on the bacterial enzyme system which has to do with reproduction and since the sulfa drugs interfere with an essential nutritional process of bacteria, two vital processes are attacked simultaneously if the organism is subjected to both drugs. Studies indicate that the sulfonamides definitely support and enhance the therapeutic effect of penicillin.

ASSOCIATED THERAPEUTIC USES: The advantages of this combination make it a valuable tool in the treatment of infections caused by staphylococci, hemolytic streptococci, pneumococci, gonococci, meningococci, and some of the predominantly gram-negative organisms such as shigella flexneri, salmonella enteritis, escherichia coli, which cause bacillary enteritides and infections of the urinary tract. The use of penicillin with sulfonamides is believed to be wise not only because of the wide spectrum antibacterial action and the additive activity, but also because combined chemotherapy may prevent the development of drug-resistant strains of organisms.

AVAILABLE PREPARATIONS: This combination is marketed by Abbott as Truo-Cillin in 0.3 Gm. Dulcet Tablets for children, containing 0.1 Gm. each of sulfadiazine, sulfamerazine, and sulfamethazine, with 50,000 Units of penicillin; for adults, the 0.5 Gm. tablets contain 0.167 Gm. each of the sulfonamides and 150,000 or 300,000 Units of penicillin. This combination is also marketed as an oral suspension by Wyeth under the trade name of Bicillin-Sulfas. Each 5.0 cc. teaspoonful contains 0.167 Gm. of the sulfonamides and 150,000 Units of Bicillin.

THERAPEUTIC DOSAGE AND ADMINISTRATION: For the Truo-Cillin, the dosage for children is 3 or 4 Dulcet tablets initially, followed by 1 or 2 tablets every four hours. For adults, the dosage is 4 plain tablets initially, followed by 1 or 2 plain tablets every four hours. The medication should be given at least one-half hour before or one and one-half to two hours after meals. For the Bicillin-Sulfas suspension for infants and children, it is recommended that an initial dose of 1 to 3 teaspoonfuls (5 to 15.0 cc.) be given, followed by one-half to 1 teaspoonful every six hours, the dose being adjusted according to age. Adults should receive an initial dose of 4 teaspoonfuls (20 cc.), followed by 2 teaspoonfuls every four hours.

TOXICITY: Toxic manifestations are rarely reported from these trisulfonamide and penicillin combinations, since the three sulfonamides provide the highest degree of safety from sulfonamide-induced crystalluria. Reports of sensitivity to Bicillin are rare. Literature indicates that in only 2 to 5 per cent of the population treated with penicillin are there any toxic manifestations.

PRECAUTIONS: As in any antibiotic therapy, close supervision of the patient by both physician and nurse is necessary. Where indicated, alkalinizing agents should be ordered with the sulfonamides. It is the nurse's responsibility to encourage the patient to increase his fluid intake. In addition to urine studies, blood studies should be made during the course of therapy. If sensitivity reactions occur either in response to the pencillin or sulfonamides, control with antihistaminics or discontinuance of medication may be indicated.

The Dynamics of Human Relationships

Let's Talk It Over

by Theresa G. Muller, R.N.
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A CONSIDERATION of human behavior on the basis of motivation leads us to ask the questions: What do we want? How much do we want it? How much do we know about how to get it? How well do we understand the situation in which the need is to be met? Is our concept of the situation what it truly is as a whole, or do we base our conclusions on one aspect of it which gives a limited view of it? Does a fair understanding of the situation still limit our actions because we do not know what to do, or lack the initiative to do it?

Slowly, during this past century, scientific studies have yielded the data on the structure and function of the nervous system, both as they affect and are affected by other body functioning. These studies were founded on the data from biology, which was preceded by chemistry, physics, and mathematics.

"Each science has to wait for its peculiar accuracy until its predecessors have supplied the data and the tools out of which its accuracy can be made."[1] Thus we are told that the time clock of science has struck the hour of psychology and the beginning of a new enlightenment on human nature and human experience.

The concepts of "integration" and "insight" are now being considered in the light of a dynamic psychology. Closely allied to these are the implications of the process of individuation.[2] This psychological process leads to the unique, indivisible unit or "whole man" concept—the individual. We now realize that the conscious mental contents of ideas, emotions, and perceptions are only a part of the psychological "whole" of an individual. Just as night is an important part of the time designation of a "whole" day, so the unconscious processes are an important part of the totality of a "whole" person. The following will indicate the explorations of one workshop group in arriving at some clarification of these concepts.

Leader: The task of achieving insight generally includes the following:

1. A period of preparation: trial and error; getting together the materials, the facts, and opinions, the pros and cons
2. A period of renunciation: the effort may be temporarily abandoned
3. A period of insight
4. A period of elaboration, verification, and evaluation.

Participant: Is it possible to go only as far as the second stage and no further?

L—It is possible to go only so far.

P—What prompts us then to insight?

L—Frustration tends to motivate us to achieve insight. If everything is going along comfortably, why bother to make the effort?

P—How can you be sure you are right when someone else thinks otherwise?

L—The facts will need to be carefully evaluated. In a lifetime we develop the ability to console ourselves by a method of self-deception. "I am right and the other fellow is wrong." All of us use defense devices for constructive or destructive purposes and, in the latter instance, further examination becomes necessary.

P—How far does one's original opinion hold?

L—What do we know about the influence of the crowd? The amount and kind of opposition determines whether or not one continues to hold an opinion.

P—Why do we tend to justify ourselves in the face of opposition? Or, why do we tend to say "Let it go" rather than make a fuss over an issue?

L—Defense, or secondary action, is used to avoid frustration or dissatisfaction with a relationship. You answered your own question by saying that people give in to avoid a fuss. Time is important in gaining insight. After a struggle with a problem for months or even years, it may be seemingly forgotten until a solution is formulated unexpectedly.

P—Is it really forgotten, or is the subconscious working on it?

L—The purpose of the brain is to think and reason, to relate and record, and to reach a conclusion. The nervous system retains each impression. Those which we are unaware of and are unable to recall make up the unconscious. Though you may turn away from the problem, processes go on in the mind and determine actions which are called irrational. How much of what we see is real? Or do we see only what we would like to see? There is a basis for conflict in what an individual wants for himself and what reality allows. Mechanisms are used which help a person to get satisfaction from reality.

L—Let us see how the feelings which arise with regard to a problem affect us. Frustration is usually accompanied by a certain amount of discomfort. When you expect to get something by going to a class, for instance, it is frustrating to find that you will need to expend some effort. Do you get insights when you want them or when you are ready for them? If the insight is unacceptable, will it be rejected and lost? This probably depends upon how important the problem is to you. For example, a staff physician came to me in a fury and accused me of frustrating him. I did not agree with him, but told him to let me think about it. Upon awaking at two in the morning, I recalled that before the incident of which he spoke I had been troubled about an unresolved issue. It dawned on me that the accusation was true. Why was the insight delayed? I was involved subjectively and was therefore not prepared to be aware of all the factors. Later, in passing, I made amends by admitting to the physician that he was right, and that was all the explanation that seemed necessary.

P—What if the physician had not told you and the barrier between you had continued? The physician might take it out on someone else. What can you do before the volcano erupts?

L—Aren't some people in positions of authority willing to have this happen? Some administrators feel impelled to work under the delusion that everyone is happy.

P—What gave the physician the impression that it was your fault and not his?

L—It was the truth.

P—But what if it had not been?

L—Let me give you another example. A resident 'lays me out" because of the poor program available to him. What is to be done in this situation? It was quite evident from the way he presented his problem that he was having troubles in his personal life. What were the facts, and what were the reasons for his hostility? I referred the question back to him. "If you were sitting in my place how differently would you do things?" I have come to the grim conclu-

(Continued on page 26)

[1]Overstreet, Harry A. *The Mature Mind.* New York: Norton, 1949.

[2]Jung, Carl G. *The Integration of the Personality.* New York: Harcourt Brace, 1938.

Commentary

by Louise Candland, R.N., and Erica J. Koehler, R.N.
Industrial Nursing Editors

Industrial Nursing

IN SPITE of the remarkable progress made during recent years in the control of communicable diseases, one disease remains the cause of great concern. Poliomyelitis is feared and dreaded because of the danger of its permanent crippling effects. This disease, which usually strikes children and young adults, often reduces their chances to lead useful and productive lives.

The industrial nurse usually is not directly concerned with the care of the acutely ill polio patient, but she should recognize the fact that she has an important part to play in community efforts to control the disease.

The industrial nurse should know how the disease is spread so that she can understand the problems of control. Through her health education program, she should teach employees to recognize that personal cleanliness is one of the best methods of avoiding infection. She also should encourage workers to impart the principles of good hygiene to their families. This, in turn, will result in the protection of every member of the family.

During the period of greatest hazard, usually the summer months, the industrial nurse can disseminate other information to workers in order to help them avoid infection. She should point out the dangers of becoming too tired and of congregating at crowded beaches, swimming pools, and other public areas. She should warn workers that when such contacts are unavoidable, frequent washing of the hands is necessary.

While it is essential at all times to maintain adequate plant facilities for washing and eating, during the endemic period of poliomyelitis even greater stress should be placed on seeing that those workers responsible for handling food observe strict personal hygiene.

The industrial nurse is aware that the early symptoms of polio can be vague, with only a suspected simple upper respiratory infection. She should, therefore, encourage workers to seek early medical attention if there is any suspicion of the disease at all. In this manner, she can do her part, within industry, to prevent polio.

From the standpoint of the community, the industrial nurse should be familiar with and understand the work done by the National Foundation for Infantile Paralysis.

The nurse in industry should also assume some responsibility for those persons who once had the disease. She is the best person to help her management understand that the skills of these persons should be used, even though they may be handicapped as a result of the disease. If they are placed in the right positions, these people make excellent employees.

January is the month selected for the annual drive for funds for the National Foundation for Infantile Paralysis. The industrial nurse should be a leader in encouraging the workers, their families, and her management to participate in and contribute to the work of the agency. This agency is interested not only in the treatment and rehabilitation of the victims of the disease, but it is also doing important work in research to determine the cause and prevention of the disease. During the past years there have been many important developments which point the way to an effective method of immunization. Funds are necessary to continue this work, which may lead to a future in which polio is feared no more than the other conquered communicable diseases. Whenever and wherever possible, the industrial nurse should encourage those whom she contacts to contribute to this worthwhile cause.

* * *

This issue marks the beginning of our fourth year as editors of the Industrial Nursing Section of NURSING WORLD. We thank our advisors and contributors who helped, during the past year, to provide the material presented. The members of the editorial staff have interesting plans for the future which will make the magazine more valuable to our readers. We hope you will continue to send us your comments and suggestions, for we hope to be able to bring you more of the kind of material which will help you most.

We wish you all a happy and successful New Year.

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The Industrial Nurse As a Teacher

by Louise Candland, R.N., and Erica J. Koehler, R.N.

ONE of the most interesting and important phases of the industrial nurse's work is her role as a teacher. She may be unaware of the amount of real instruction she is able to give because little of this teaching is done in a formal classroom manner. However, every activity she performs, from first aid to administration, gives her a teaching opportunity. Whether her teaching is good or bad depends largely on her own attitudes, her desire for new knowledge, and her skill in dealing with people. Her own initiative should prompt her to look for new and effective methods of presenting her subject.

There are many methods used to instruct and inform employees. The nurse should select the most effective ways of getting her message accepted. These will depend on the type of employees in her plant and the amount of support and cooperation she is able to obtain from her management.

Often, her initial step must be the establishment of her own worth—that is, achieving a state of rapport with both management and employees. This, itself, is a teaching problem, especially if she is the first nurse in the plant or if she has followed a nurse who had made an unfavorable impression on the executives or workers. She must approach the problem of changing such attitudes with deliberation, and she must use good judgment in planning how much of what she has to give can be absorbed at any given time. This is often the most difficult problem the nurse must face and it will take all the sincerity, patience, and optimism she possesses. In many cases, she may have to acquire new teaching skills.

Fortunately, there are many sources of valuable and helpful information, and many tested methods which may be applied. Both management and labor, to a large extent, have accepted the need for constant education of employees, supervisors, and executives. If the nurse is alert, she can find her niche in the overall educational programs of the plant.

The Nurse as a Person

Whether the industrial nurse realizes it or not, her own example can be her best or worst teaching tool. For instance, she can teach personal cleanliness only if she herself practices it. Dr. Arthur F. Manglesdorf once listed the following as the qualities which he believed made the industrial nurse an effective teacher by example.[1]

1. Erect carriage — back straight, no sagging shoulders, head and chin up, standing firmly on both feet.

2. Poise — The dictionary defines this as "balance or stability." The word describes the nurse who is at ease in all situations.

3. Good health and physique — Only by keeping her own health at a high standard can the nurse expect to serve as an example of her own teaching. The nurse who is frequently absent can hardly be expected to solve the absentee problem in her own plant.

4. Dignity — She should be highly esteemed; she should consider the dignity of her profession and not be overbearing or haughty; she should be able to treat all people with equal courtesy and consideration.

5. Enthusiasm—She should like industrial nursing and want to do this type of work. She must like people and want to give help in all situations. Her voice and her manner should convey her satisfaction with the work she is doing.

6. Cheerfulness—The nurse with a smile has more calls for her services than the one with a sour face.

7. Well-groomed and well-dressed—A clean well-pressed uniform goes a long way toward improving the morale of both nurse and patient. The uniform should be worn with cap and pin.

In addition to all these qualifications she should be well-educated. She needs a good formal education to which she will constantly add new information and skills. To be a good teacher she must also acquire general knowledge on subjects other than nursing. In an industrial atmosphere, she should have an understanding of business methods and problems, a working knowledge of labor relations, and an interest in current events. With this basic equipment, the industrial nurse is ready to begin her teaching career.

How Does the Nurse Teach Employees?

1. Individual instruction — This is one of the most effective and most frequently used methods of conveying information. Routinely, it takes place at the time of the pre-employment physical examination, during the treatment of an injury or illness, when the employee returns to work after an illness, and at any other time when the nurse and worker are together. This teaching is done when the worker presents a specific problem regarding his own health or that of his family.

2. Group instruction — The first opportunity for this kind of instruction may begin in the safety committee meeting, supervisors' meeting, or during any other meeting of a group in which the nurse is a regular participant. She can use this opening to introduce other types of group instruction such as first aid courses, instruction in civil defense programs, or projects which seem to be needed in her plant. They may, for instance, be specific departments within the plant where workers need instruction in control of special hazards or exposures. Such instruction is best carried on in small groups in which the employees are more prone to ask questions which will clarify and direct the thinking of the other members. New employees, especially, are receptive to this type of teaching. For example, in one chemical industry, groups of new employees receive instruction in personal hygiene. The nurse emphasizes skin care in an effort to prevent dermatitis. The use of protective creams and the need for early reporting of all symptoms are stressed at this time.

3. General employee instruction:

[1]Manglesdorf, Dr. Arthur F. "What We Expect of Our Nurses." *Nursing World*, March, 1952.

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A. Employee meetings — At these meetings health subjects which affect the entire plant population can be presented by the medical department. For example, at the time of a mass chest X-ray survey, the agency making the survey can cooperate with the medical personnel in explaining the reasons for the survey and its value to the individual employee. This method can also be used in promoting a blood donor program or any other community health project.

B. Employee publications — More nurses should use this medium for disseminating information. The material should be interesting, current, and presented in a manner easily understood by the employees. There are ways of explaining health subjects in non-technical language which do not belittle a worker's intelligence. It is well to use one subject at a time and keep the content free of unnecessary detail. The nurses who have used this medium have found it very satisfying.

C. Special bulletins—This method can be used in cases where a specific community or plant health program must be clarified for the benefit of the entire plant.

D. Public address system — In plants where this is used, health and safety messages can be broadcasted. These, of course, should be short and well-worded. The tendency to "preach" to the employees should be avoided.

Printed and Visual Teaching Aids

These can be employed in many ways. The ways should be varied and the information should be timely. The following are some of the avenues for distributing teaching materials:

1. Employee handbooks
2. Booklets, pamphlets, and articles issued by outside agencies or organizations
3. Payroll inserts
4. Posters
5. Bulletin board announcements and notices
6. Cartoon and comic-strip booklets
7. Films—sound and silent, sound slide, and motion
8. Information racks

The use of information racks is one of the newer methods of spreading information. It is used to distribute all kinds and types of booklets, and it offers the employee the opportunity of choosing the reading matter which interests him most. The general information racks throughout the plant should contain health information along with general reading material. In addition to this, the medical department should have its own rack offering a variety of health subjects. The nurse should note which booklets are most often read and requested. Those which are not popular should be removed. It is also very important that all materials displayed are approved by the medical department.

The alert nurse will be able to find other ways of bringing her health message to the workers. The methods described will be workable only if the nurse has "taught" her management that health problems concern everyone in the plant and have a direct bearing on the profits and losses of the company. To be a good health teacher, the nurse must have the cooperation and participation of management. Only then can she hope for a successful employee education program.

Advantages of an Eye Protection Program

by Muriel Worley, R.N.

MANY things come cheaper by the dozen, but we have only one set of eyes for a lifetime.

Industrial operations expose the eyes to a variety of hazards. Among these are flying objects, splashes of corrosive liquids, hot molten metal, dusts, and harmful rays.

Injuries to the eyes result in a high degree of disability and often disfigurement. From the standpoint of medical treatment and compensation, the cost per injury is high, and the total cost to employers and employees is heavy. Eminent authorities, like Mr. H. W. Heinrich of the Travelers Insurance Co., have pointed out that the indirect or hidden costs of all injuries are four times as great as the cost of compensation and medical expenses. The average eye cost, per single embedded foreign body, as estimated by National Safety Council in 1951, was $16.73. This figure includes one call on the doctor and follow-up treatment. Costs are higher now. Total loss of vision of one eye now costs $5,160. The indirect or hidden costs, according to Heinrich, include the following:

1. Time lost by the injured worker
2. Loss in earning power—economic loss to the injured employee's family
3. Time lost by workers—loss of efficiency due to break-up of crew
4. Time lost by supervision—cost of breaking in replacements
5. Damage to tools and equipment—time lost while equipment is out of service
6. Spoiled work and materials used
7. Failure to fill orders
8. Overhead costs during work disruption, and at least one hundred other miscellaneous items.

The inauguration of a sound and well-supervised eye protection program aimed at the solution of the problem of cost in regard to injuries, medical treatment, and compensation is beneficial to management and to the worker.

The choice of the person who can most effectively do the job of safety education and a determination of the methods to be used depends largely on the different situations in each plant. The larger plants have safety engineers administering the eye protection program. In smaller plants the nurse can do an efficient and thorough job.

The greatest possibilities for eliminating the eye hazards of industry, or at least for protecting the workman against the results of these hazards, still lie in education. The nurse, with her educational background and her constant opportunity for teaching in industry, is well acquainted with the arguments for accident prevention.

In the pre-employment physical she is able to do vision screening with the use of the Schnellen chart, Keystone telebinocular or Bausch & Lomb orthorator. In this way she can determine whether the applicant's vision is within normal range. The applicants who appear to have visual errors are referred to an ophthalmologist for a

(*Continued on page* 31)

Industrial Health News

New Civil Defense Film Stresses the Importance of Good Communications Systems

A civilian defense film entitled, "And a Voice Shall be Heard," emphasizes the strategic importance of adequate communication systems and demonstrates the use of the two-way radio. This film should be of interest to all concerned with civil defense. It is produced by "March of Time" for the General Electric Company, and the running time is twenty-two minutes. It is available in black and white, with sound, and is distributed by General Electric Film Libraries, Electronics Park, Syracuse, New York.

Industrial Plants Have Part-Time Nursing Programs

Part-time nursing programs in industrial plants are not new, according to the article, "Extending Adult Health Services Through Industrial Contacts," by Melvina F. Palmer, which appeared in the February issue of *Nursing Outlook*. Many public health nursing agencies have entered into contracts to provide such service. In part-time industrial nursing, the public health nurse is responsible to an executive of the plant while she works there. Within these time limits, she carries on the same nursing functions that a full-time industrial nurse would perform. Because of her preparation, she can also provide the traditional services of health instruction, prevention and control of disease, and care of the sick through appropriate procedures that are acceptable to management and to the employees.

The plant offers an environment in which healthful living can be instituted and maintained for adults during most of the day. The environment also offers opportunity for individual health counselling, and, with the increased employment of women, there is a strong likelihood that both mothers and fathers will be reached through industrial contacts.

Controlled Diabetics Are Excellent Employment Risks

It is estimated that there are a million persons with undiagnosed cases of diabetes in the country today, according to the American Diabetic Association. It is important that these cases be detected and brought under control. According to Dr. Howard A. Rusk, there is a great need for people to realize that diabetes can be controlled by keeping three major factors—diet, exercise, and insulin—in proper balance. By exercising care in these areas, the diabetic can lead a full, active, and useful life. Dr. Rusk further cites a report of The American Diabetes Association on the relation of diabetics to employment. Three important points should be considered:

1. Diabetes is a serious employment hazard only when it is undetected and therefore uncontrolled.
2. With the sole exception of a few hazardous jobs, in which he might endanger his own or his fellow worker's safety, the diabetic who adheres to a control program prescribed by his physician is as acceptable as the non-diabetic for any normal employment.
3. The controlled diabetic is often an unusually satisfactory employee, because the self-discipline he enforces in keeping his disease under control is also evident in the general regularity of his habits of working and living.

Work Classification Unit Determines Physical Capabilities of Heart Patients

Today, there is a whole new approach to heart disease, according to Dr. Leonard A. Goldwater, medical member of the Work Classification Unit of New York's Bellevue Hospital. In this approach, the doctor looks for abilities rather than disabilities, and the team of specialists—doctor, social worker and vocational counselor—tries to find out how much and what kind of work the heart patient can do safely. Since 1941, the classification unit has examined 1,000 patients, most of whom have been saved from needless invalidism and are working well within their physical capacities. Because of the work of this unit, other clinics, sponsored by the American Heart Association, have been established throughout the country. Additional information may be obtained from your doctor or your local Heart Association.

Food and Drug Administration Issues New Regulations Regarding Commercial Eye Solutions

New regulations issued by the Food and Drug Administration require commercial eye solutions to be sterile and to contain adequate preservatives. The action was taken after investigation revealed that serious eye injuries and some cases of blindness were caused by contaminated ophthalmic solutions. It was also discovered that some supposedly safe preparations had fallen below standards. The Food and Drug Administration now says that all liquid preparations intended for ophthalmic use must be sterile. In addition, suitable substances to prevent growth of micro-organisms must be included in solutions packed in multiple dose containers. Labels designating the duration of use and warnings must also be used.

Stenographers Fall Victim to Disease of "Posture-itis"

"Stenographer's Disease" is well known to osteopaths. The term may be confusing, but it does not mean malaise caused by late hours, no breakfast, inadequate luncheons, or nervous tensions caused by an unsympathetic boss. Stenographer's disease should be called "posture-itis." It is the result of: the wrong chair, improper posture in a good chair, or faulty relationship between the chair and the desk height.

New Publications and Films

"Handbook of Accident Prevention for Business and Industry"—National Safety Council, 1953. The book has ninety-three pages, with diagrams, forms, and illustrations. It is written for the manager of a small business or for supervisors in departments of large organizations.

The article, "Industrial Safety and Health in the United States," by Herman M. and Anne R. Sommers, appeared on pages 475-496 of the July 1953 issue of *Industrial and Labor Relations Review*. The publication, published in Ithaca, New York, is priced at $1.25.

The National Directory of Safety Film, 1953-54 edition, may be obtained from the National Safety Council, Chicago, Ill. This forty-eight page booklet costs $.75.

A twenty-four page pamphlet, *Occupational Health and Related Motion Pictures, Film Strips, and Slides*, may be ordered from the Federal Security Agency, Public Health Service, Division of Occupational Health, Washington, D. C.

"To Live in Darkness" is a film which deals with the results and prevention of industrial eye accidents. 16 mm., sound, black and white. It has been released by the National Society for the Prevention of Blindness.

"Hold Back the Night" shows the detection and arrest of glaucoma and the need for early diagnosis. 16 mm., color, sound. It may also be obtained from the National Society for the Prevention of Blindness.

"Right on the Nose" is based on the proper procedures for fitting different types of industrial safety goggles, and it stresses the need for individual fitting for each worker. 16 mm., sound, black and white. This film may be obtained free of charge from the American Optical Company, 2 Mechanic Street, Southbridge, Massachusetts.

An Interview **with Hukate T. Elwood, R. N.**

Small But Vigorous

The story of South Carolina's first school of practical nursing which was established under the State Department of Education

by Elizabeth W. Hard, R.N., *Instructor of Practical Nursing, Greenville County Schools, Greenville, South Carolina*

THE course in practical nursing at the Greenville County Schools of Greenville, South Carolina, was the outgrowth of several important community needs. The Greenville General Hospital had been considering a plan for training practical nurses to help solve their nurse shortage. Dr. W. F. Loggins, County Superintendent of Schools, was interested in providing educational opportunities in nursing because of the community need for nurses. The State Board of Examination and Registration of Nurses wanted more extensive educational opportunities for practical nurses so that they might meet the requirements of the nurse practice act.

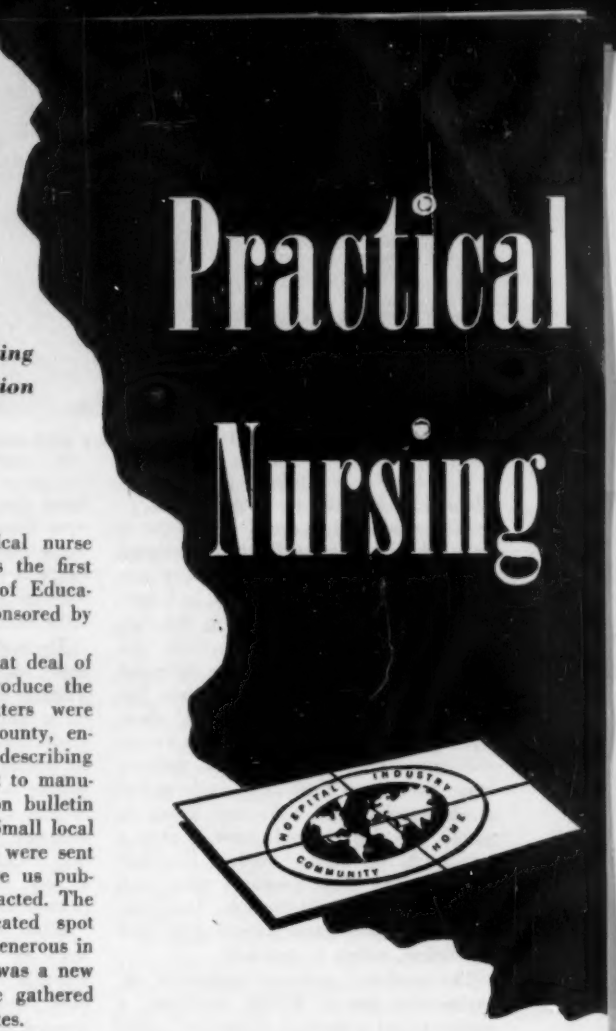
When Marie P. Jones, District Supervisor of Trade and Industrial Education of the State Educational Department, came to Greenville to interview Dr. Loggins, the ground work began. Interviews were held at the different hospitals in Greenville, with a view toward providing clinical experience. The Greenville General Hospital had the required facilities, around-the-clock supervision by graduate nurses, and they promised cooperation. Two other institutions also met the requirements: the Maternity Hospital and the Shriners' Hospital for Crippled Children. The school health department offered good experience.

A local advisory board was established and included one representative each from the Hospital Association, Nurses' Association and Nurses' Examination and Registration Board; a licensed practical nurse; a doctor from the medical association; the doctor with the school health department; a home economics teacher; the school consultant in guidance and placement, a doctor from the County Health Department; and an interested citizen. The program closely follows the *Practical Nursing Curriculum* and *Practical Nursing Analyses* as outlined by the U. S. Office of Education. It meets the requirements of the State Nurse Practice Act.

The program is financed by local, state, and federal vocational funds. The school has been given accommodations in the Greenville High School. While there have been other practical nurse programs in the state, this is the first under the State Department of Education, and it is the only one sponsored by and part of a school system.

Like any new venture a great deal of publicity was required to introduce the program to the public. Letters were written to ministers in the county, enclosing the pamphlet or flier describing the course. Material was sent to manufacturing plants for posting on bulletin boards in recreational halls. Small local papers throughout the county were sent items with the request to give us publicity. High schools were contacted. The radio stations gave us repeated spot news. City newspapers were generous in allotting space. Because this was a new venture for all concerned, we gathered data from schools in other states.

Although forty or fifty women requested information, the applications came in slowly, because the lure of higher wages in industry, the requirements of two years of high school work, and family obligations deterred many. For a time, it seemed doubtful that there would be a class, but we were ready to open on August 9, 1951. We had five applicants who had met the requirements, but on August 9, five more came. They had been under the impression that this was similar to the American Red Cross Course in Home Nursing, where all that was necessary was an appearance at the first class. Fortunately, all five could meet the requirements, so the class started with ten. One student dropped out, two could not pass the classwork, and another found difficulty in adjusting herself to the nursing experience on the wards. Regarding age groups, one fourth were just out of high school, one half were above thirty, and the remaining fourth were above forty. It seemed that the young girls were not quite as interested and did not study as well as the older students. The women over forty had trouble combining speed with accuracy in the nursing procedures, but the middle one-half were better in both theory and practice. All except two were high school graduates, but everyone com-



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Greenville County Schools' first practical nursing graduating class.

This practical nursing class assembles for its initial instruction.

plained of difficulty in concentrating.

We considered it very important to have nice-looking, well-fitting uniforms in order to create and maintain a professional attitude. The class had seen aides (paid ward helpers) in the hospital, often with carelessly worn uniforms, and they wanted to be different. They were rather difficult to satisfy, but by the end of the three months' classwork period, they had selected an attractive gray and white striped uniform made by a local firm. The uniform has a white collar and cuffs and a cap to match. On the cap and sleeve is sewn a tape with the words "Student Practical Nurse." The class provided their own uniforms—four at $9.00 each. They also chose a uniform cape, oxford gray with red lining, which is optional.

The students' expenses consisted of: registration fee of $10.00, uniforms, a textbook and a medical dictionary, white shoes and stockings, watch with second hand, bandage scissors, and pen. The class chose a pin, which will be standard for other classes. Across the top is "Greenville County Schools." In the center is a palmetto tree, emblem of South Carolina, and across the bottom, Practical Nurse. Wearing this pin is optional.

The program of studies follows very closely the accepted curriculum for practical nurse schools. During the first three months, the program involved five six-hour days of classwork weekly. The classwork included sixty hours in food preparation, taught by the high school economics department, and the standard Red Cross First Aid course, taught by a certified Red Cross instructor who is also a member of the physical education department. In the course in food preparation, each student is required to plan meals for five persons for a week, to plan different diets, and to plan menus for entertaining company.

In 1952, classes in psychology and in common drugs were added to the curriculum. After this class period, there was a two weeks orientation program at the Greenville General Hospital (361 beds on mixed services). Orientation was given on two wards, surgical and medical, and adult patients of both sexes were observed. In 1952, eight patients were selected for student experience during orientation. Following this, the students began their clinical period in three different institutions and with the Greenville School Health Department.

Throughout the class period, the students showed good spirit and responsibility toward each other. When they put on a uniform and started their active professional training they grew more particular. If one of their number appeared with shoes in need of polishing or hose that were not quite spotless, she was told about it by the others. I felt that my classes in nursing ethics had had a good effect on them when they appeared so critical of each other.

With one exception, they did good work on the wards and in the clinics, where I went every day to teach them new procedures. The head nurses expressed pleasure with their services and occasionally asked that a student remain longer on a service.

Following the two weeks of orientation, the students spent twenty-six weeks at the General Hospital, four weeks at the Shriners' Hospital, four weeks at the Maternity Shelter, and four weeks at the Greenville School Health Department. They enjoyed their surgical and medical experience in the General Hospital and their terms in the clinics.

At the Maternity Shelter, they were delighted with their obstetric experiences. Mrs. Frank E. McCravey, the superintendent, arranged their hours so that she was always on duty with them. She instructed them in prenatal, delivery, and postnatal nursing. The Shelter, which offers care to multipara of limited means, has twelve beds for adults and fourteen for children, with four incubators. They admit patients whose labor and delivery are normal or uncomplicated, and keep them for ten days. The Shelter also has a baby wing for children up to three years, boarding some young ones for the Child Placing Bureau until they can be permanently placed. The students there had experience in both the prenatal clinic and the well-baby clinics.

At the Shriners' Hospital, the students had experience in the care of sixty children. Louella Schloeman, the superintendent, praised their professional attitude and the quality of their work.

During their two weeks with the School Health Department, they assisted the nurse and the doctor. When the Visiting Nurse Association increases its staff, they look forward to offering the students experience with their organization.

The course includes 305 hours of class instruction and 1,708 hours of clinical experience and practice. Fifty hours of class instruction is given during the clinical period in maternity and child care, care of the chronically ill, home nursing, first aid and bandaging. Most of this instruction is given at the hospital.

The students work an eight-hour day, six days a week, during their clinical experience. Night duty experience is from two to four weeks; assignment to the diet kitchen is four weeks.

No type of payment is made to the student during the clinical or hospital experience. As yet, no scholarship or loan funds are available for student aid.

By the time the nine months' course was finished, the General Hospital offered work to all those in the class, the Maternity Shelter wanted two nurses, and Miss Schloeman of the Shriners' asked that the girls not accept any position before they talked with her, because she wanted to employ several of them.

Graduating exercises for the first class were held August 8, 1952 in the Greenville High School auditorium, and diplomas were presented by Mr. M. T. Anderson, supervising principal of the Greenville attendance area. They were signed by him, by Dr. Loggins, superintendent of Greenville County Schools, and by me. They were also given a certificate by the State Department of Education, which was signed by the state superintendent, the supervisor of trade and industries, and the instructor.

As the first class, they had the privilege of selecting the insigne to be worn after they passed the state board. The price of cloth insignia from uniform companies was prohibitive, but a local department store offered to develop a pattern for the design. The patch or insigne is

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Practical Nursing in Slow Convalescence

by Ruth Boyer Scott, R.N.

"WHEN I took a patient to the hospital door in a wheel chair, I simply had no idea what might be ahead in convalescence," Mrs. Tracy said. "Well, I learned fast on my first home case."

Convalescence, according to Webster's dictionary, is the "time between the subsidence of a disease and complete restoration to health." Every work program for practical nurses has included convalescence as a time when a practical nurse can serve well. Yet few nurses have the opportunity, as Mrs. Tracy had, to watch a slow recovery from an acute illness.

Her patient, Bill Needham, was 15 years old. His mother was an employed widow. Bill was admitted to an isolation ward with severe scarlet fever. Scarlet fever today may be so light that cases are missed or not recognized until the typical flaking off of skin occurs on the hands and feet. But some cases are severe or even fatal. Bill's case was serious. His temperature ran to 106 degrees.

Mrs. Tracy didn't even see Bill until the day he was well enough to leave the hospital. She was called to the hospital, the doctor introduced her to Bill and explained that she would care for him at home. Then, the doctor walked with Mrs. Tracy to a conference room and asked her to sit down.

"You have a real nursing challenge, Mrs. Tracy," the doctor said. "Here is a teen-age boy, proud of his height and fond of football. Now he's a shell of himself, thin and unable to engage in any active sports. His mother must work all day to support them both, and we're looking to you for three or four months of supervision, five days a week while the mother is at the office."

"Just what is the diagnosis, doctor?" Mrs. Tracy asked.

"You could call it convalescence—or recovery. A similar picture might follow any high fever which lasted a week or so, or a bad attack of flu, or an auto accident. If you want to give it a medical name, you could call it post-febrile adolescent asthenia. Post-febrile, of course, means after a fever. Adolescent refers to the fact that Bill is still maturing, and doesn't have a man's strength, although he has a man's height. Asthenia comes from a Greek word meaning lack of strength."

"Can you find anything more—more exact which is wrong with him?" Mrs. Tracy asked, puzzled at the indefinite picture.

"Very little," the doctor confessed. "He's thinner than he was before his fever, but his weight loss doesn't account for all his weakness. He has a mild anemia, for which I want you to give him iron pills, but that isn't bad enough to explain his weakness. So we just give his condition the name 'asthenia' to say he's weak but we can't put our finger, today, on anything that is seriously wrong. You're going to see a real convalescence after a severe illness."

The program worked out at the Needham home was for Mrs. Tracy to arrive in midmorning. Mrs. Needham got breakfast for herself and her son before she left for work.

When Mrs. Tracy arrived each day, Bill was still in bed, sometimes reading or listening to the radio, but often asleep. He was able to sleep from nine in the evening until seven in the morning, then often to sleep again after breakfast until midmorning. The first time Mrs. Tracy took Bill to the doctor's office for a check-up, she asked the doctor about these long sleeping hours.

"I'm glad you reported this," the doctor said. "Occasionally, abnormal sleepiness may be the sign of active disease. In Bill, it is one of nature's ways of hurrying his recovery. During sleep the body uses the least amount of energy, leaving more strength for recovery."

Bill had gained two pounds, but the doctor asked Mrs. Tracy to continue with her high-caloric, high-iron diet and the special medications. Bill needed extra food for his adolescence, plus extra food for his recovery. A diet high in iron would help to lessen the anemia, or lack of iron in Bill's blood.

Mrs. Tracy's first midmorning task was to prepare nourishment. She beat two raw eggs thoroughly, then allowed the foam to settle. Much of the dislike of raw eggs comes from eating a slippery egg white which hasn't been thoroughly beaten. Bill, she discovered, would not drink two glasses of eggnog, but he would drink the same amount from one huge glass. "Part of the stubbornness of convalescence and adolescence," Mrs. Tracy said silently to herself.

When she ran into a stone wall with Bill, she didn't try to go through the wall; she went around it. The double-size eggnog was made with only two teaspoons of sugar. Over-sweetened nourishment can turn a patient away from eating. Where Mrs. Tracy had room for art was in the flavoring. One day she used vanilla, another day a dash of nutmeg on top, a third day cinnamon.

For a still more dramatic change, some days she put the two eggs into orange juice, grapefruit juice, or pineapple juice. In this way, she could take more than a week with variations before she was back to the same flavor again.

In the midafternoon, the nourishments varied around the milk. She would make chocolate milk, with a tablespoon or so of chocolate syrup, which she made from equal parts of cocoa and sugar. She made vanilla milk, with just a touch of vanilla and sugar. But the most fun, from Bill's point of view, were the home "drug-store" treats, with ice cream stirred into milk for a milk shake, or floating on top of gingerale, or in soft drinks for a fizz-float.

At both lunchtime and dinner, Mrs. Tracy prepared a full man's meal, with soup or salad, main meat course with potatoes and one or two hot vegetables, a hearty dessert and plain milk as the drink.

Special medications were really simple, at first. They consisted of iron pills, three times a day, and a "one-shot" combination vitamin pill once a day. Mrs. Tracy made a chart. One striking difference between home and hospital care is that the home patient usually knows what medicine he is getting, and why. Bill accepted medicine with better grace if he took it himself and made his own checks on Mrs. Tracy's charts.

The daily temperature chart showed a slight elevation, usually around 99.2 degrees F. Then the temperature crept up to 99.8, and Mrs. Tracy telephoned the doctor. This temperature is unimportant in the normal case, but it was a change in the wrong direction for Bill. The doctor asked her to bring Bill to the office for a recheck. The urine test showed a slight amount of pus, which might be caused by a mild cystitis (bladder infection) or pyelitis (kidney infection). The doctor had Mrs. Tracy fill a prescription for an antibiotic. Because this was a medicine which needed careful handling, Mrs. Tracy herself gave Bill these pills at four-hour intervals.

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Let's Talk It Over

(*Continued from page* 18)

sion that I cannot teach anyone anything, but I can help another to remove the obstructions to learning. A person who is hostile and resentful uses energy on his emotions which handicaps the ability to learn.

P—How would it be possible to get such a person, who is emotionally blocked, to recognize the need for psychiatric help?

L—You mean achieve insight? It is a complicated problem.

P—Such a person might be impervious to suggestions, and might not readily recognize the need for help. Perhaps we could clear our own thinking about the reasons for resisting psychiatric help.

L—You mean we should ask ourselves if more is being read into the clinical picture than is there?

P—To some of us the word "psychiatry" has negative meanings and it is therefore difficult to talk about. At one time we were just as reticent about discussing tuberculosis or venereal disease.

L—What made it easier to discuss the latter? Posters on the wall? What happened?

P—More research and education.

L—Perhaps it was realized that the serious problem would have to be faced rather than avoided.

P—We probably learned more about the problems.

L—Well, how did we get to know more? Popular articles helped, but emotional responses are prevalent. People are still afraid they will be considered demented if they seek help from a psychiatrist.

P—Could a psychiatrist be consulted about the possible approach to a person in need?

L—That is what we are trying to do this morning.

P—I should like to hear what might be possible in the case of a nurse who is unduly concerned about medications and treatments, but never troubles herself about the feelings of her patients. Have we gotten more education and, in the process, lost sight of the patient as a person?

Pain causes a doctor to be sought. Preventive medicine helps educate people. If I can talk about my conflicts to someone, I feel better. Why can't we get others to understand that a psychiatrist can help them unburden themselves?

L—What is this process called?

P—Catharsis, ventilation, abreaction. Isn't it just possible that the nurse was not mentally ill, but was just unaware of certain patient needs? Could role playing help her see this?

L—I'm not sure of the level of sophistication of the nurse. She might prefer to see a psychiatrist rather than go through that.

P—I've been working in a psychiatric hospital for years, but not until recently did I realize that I had obsessive-compulsive traits. It was then that I saw them in others.

L—We must learn to differentiate. When do apparently similar symptoms indicate a neurosis?

P—This problem is paramount in public health fields. Influence on attitudes is essential to prepare a person to accept psychiatric help. It is an educative process.

L—How does education help?

P—It teaches people to live well and consequently prevents symptoms.

L—That is the complaint. This nurse is so perfect, people cannot stand her.

P—Perhaps we are just assuming that a person needs psychiatric help. Someone else may be better able to help her.

L—Would you like to be told you needed to see a psychiatrist?

P—It seems to me we are assuming a lot when we say that a person needs to go to a psychiatrist. The nurse you mentioned runs a good ward, but she does not have understanding of the individual patient. Is she so unusual?

L—Her problem was that of being unable to improve her relationships with patients?

P—Physical care, rather than nurse-patient relationships, is still stressed in many hospitals. This nurse's attitude did not directly affect other nurses' relationships with patients. There was no problem of being overburdened. Re-education may be needed. Attitudes cannot be changed by talking.

L—Would a good course in social anthropology help?

P—It might aid intellectual understanding. She may have learned more from the supervisor's attitude than she was taught in the classroom. She satisfied the administration for some time. The complaints of patients were an indirect criticism of the administration for keeping her.

L—Before deciding what the problem really is we have had several interpretations. It seems to involve the problems of education, of hospital administration, of attitudes, of poor mental health. What about willingness to understand, to be interested, and to show acceptance? This might be shown by pointing out the existence of the problem, and then letting a person follow the course best suited to her —either change jobs or change attitudes. You cannot force anyone, but you can point out the way and offer help.

P—How is it possible to judge which is of greater importance —the disease or the patient with the disease, the physical or the psychological care of a patient?

L—Let us consider the patient who is seeking psychiatric treatment because he is phobic. It is entirely possible for him to develop acute appendicitis and become hospitalized. The first consideration is directed toward the appendicitis. Later, comes the treatment of the phobia. Treatment has to be devised in terms of immediate needs. Personality symptoms may be aggravated by the disease. Treatment of the disease then may help modify the personality symptoms. On the other hand, when there is no brain damage, and the person functions inadequately, psychotherapy may be an important measure.

P—Does this gaining of "insight" always modify behavior?

L—I am glad you said "always." It makes the answer a simple "no." I might add that a person may gain insight and understanding through intensive psychotherapy, but may lack the effort necessary for modification of behavior. Insight must be applied to everyday life. It is the application of insight that is important.

News for Nurses

(*Continued from page* 7)

How Sterilized Linen Suture Bags Help the Suture Nurse

Nurses at Presbyterian Hospital, Newark, New Jersey, have designed a linen suture bag which is simple to make and can be washed and sterilized many times. It is made out of a piece of unbleached muslin 32"x19", and is separated into 16 pockets 2" wide which are bound with 2' of ½" tape. The pockets are labeled properly with indelible ink.

The hospital has standardized three types of suture packs: fine, regular, and gastro-intestinal. When the surgical procedure calls for special materials or sizes, these are added to the pack when it is made up, or they are prepared separately by boiling or autoclaving with the rest of the supplies for the case. When the table is set up, the suture pack is anchored to the instrument table by two towel clips. When using non-boilable sutures, the linen suture containers may be sterilized in the lap linen pack and the sterile non-boilable sutures may be removed from the can or jar and placed in the labeled pockets as the table is set up for the case.

Practical Nursing Directory

This directory of national and state associations is included as a service to our readers. It will appear in the January and July issues.—Editor.

National Organizations

National Association for Practical Nurse Education
President, Mrs. Mildred L. Bradshaw, Leigh Memorial Hospital, Norfolk, Va.
Ex. Sec., Hilda M. Torrop, Suite 407, 654 Madison Ave., New York 21, N. Y.

National Federation of Licensed Practical Nurses
President, Mrs. Margaret Baird, Box 7216, Richmond, 21.
Secretary, Mrs. Lillian K. Sterling, 99 Delaware Ave., Albany, N. Y.

National League for Nursing, Interdivisional Committee on Practical Nurses and Auxiliary Workers in Nursing Services
Mary Shields, Secretary, National League for Nursing, 2 Park Ave., New York 16.

State and Territorial Organizations

Alabama
Licensed Practical Nurses' Association of Alabama:
President, Mrs. Carrie Mae Crew, 6812 S. Frankfort Ave., Birmingham 6.
Secretary, Mrs. Robbie Acker Strickland, 1715 13th Ave. South, Birmingham.
Colored Licensed Practical Nurses Association of Alabama:
President, Louvecia Pugh Boddie, 426 S. Union St., Montgomery.
Secretary, ——
For licensure apply to:
Frances Whitten, Exec. Officer, Nurses Examining Board, 402 Monroe St., Montgomery 4.

Alaska
No information concerning association.
Licensure provided.

Arizona
Arizona Federation of Licensed Practical Nurses:
President, Bessie S. Norris, 1404 E. Grant Road, Tucson.
Secretary, Ada Cort, 1446 N. Jones Blvd., Tucson.
For licensure apply to:
Mrs. Frieda B. Erhardt, Exec. Sec., Arizona State Board of Nurses Registration and Nursing Education, State House, Phoenix.

Arkansas
Arkansas State Practical Nurses' Association:
President, Mrs. Georgia Lee Russell, 311½ North State St., Little Rock.
Secretary, Mrs. Ruth Rankin, 315 North State St., Little Rock.
For licensure apply to:
Marian E. Carpenter, Sec.-Treas., Arkansas State Board of Nurse Examiners, 1016 Pyramid Bldg., Little Rock.

California
California Licensed Vocational Nurses' Association, Inc.:
President, Lura E. Bryant, 5924 South Croft Ave., Los Angeles 56.
Secretary, Mrs. Catherine Matthews, 707 N. Park Ave., Pomona.
For licensure apply to:
Board of Vocational Nurse Examiners, Rm. 184, 1020 N St., Sacramento.

Colorado
Practical Nurses' Association of Colorado:
President, Clara Wiegel, 1685 S. Lincoln St., Denver 10.
Secretary, Mrs. Helen C. Forsberg, 1685 S. Lincoln St., Denver 10.
No licensure provided.

Connecticut
Connecticut Licensed Practical Nurses Association, Inc.:
President, Miss Anella E. Rice, 109 Jubilie St., New Britain.
Corr. Sec., Mrs. Catherine Grace, 327 Trumbull St., Hartford 3.
For licensure apply to:
Agnes Ohlson, R.N., Dept. of Nursing Examiners, State Office Building, Hartford.

Delaware
Vocational Group Association:
President, Mrs. Florence Short, 418 N. Broom St., Wilmington.
Secretary, Mrs. Margaret V. Tull, 1321 Gilpin Ave., Wilmington.
No licensure provided.

District of Columbia
Association of Undergraduate and Practical Nurses of the District of Columbia, Inc.:
President, Mrs. Mary Clapp, 232 Park Ave., Takoma Park, Washington 12.
Secretary, Mrs. Frieda Huxtable, 7301 HiHon Ave., Takoma Park, Washington 12.
No licensure provided.

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Licensed Practical Nurses' Association of Florida, Inc.:
President, Mrs. Thelma Beck, P. O. Box 4125, South Daytona.
Secretary, Mrs. Gussie Barnes, 817 Cumberland St., Lakeland.
For licensure apply to:
Mrs. Delcie C. Inglis, R.N., Sec.-Treas., Florida State Board of Nurse Registration and Nursing Education, Room 6, Aragon Hotel, 230 W. Forsyth St., Jacksonville.

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Practical Nurses' Association of Georgia, Inc.:
President, Mrs. Agnes Kimbro, 1009 Howellmill Road, Atlanta.
Secretary, Mrs. J. M. Stewart, Box 137, Ben Hill.
For licensure apply to:
Board of Examiners of Practical Nurses, State Capitol, Atlanta.

Hawaii
State Association for Practical Nurses:
President, Mrs. Sydia Du Pont, 1644 A 10th Ave., Honolulu, T. H.
Secretary, Mrs. Alice Jones, Edgewater Beach Hotel, 2169 Kalia Road, Apt. 10, Honolulu, T. H.
For licensure apply to:
Leona R. Adam, R.N., Exec. Sec., Board for the Licensing of Nurses, 510 South Beretania St., Honolulu, T. H.

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President, Mrs. Gladys O. Hill, 205 W. 6th South, St. Anthony.
Secretary, Mrs. Alene Armstrong, Box 40, St. Anthony.
For licensure apply to:
Idaho Office of Nursing Education and Registration, Sun Building, Boise.

Illinois
Practical Nurses Association of Illinois:
President, Mrs. Etta Schmidt, 1610 W. Church St., Champaign.
Secretary, Mrs. Alberta Stark, 645 E. Grand St., Decatur.
For licensure apply to:
Department of Registration and Education, State of Illinois, Nursing Division, Springfield.

Indiana
Indiana State Practical Nurses' Association:
President, Mrs. H. F. Lake, 139 Crescent St., Elkhart.
Secretary, Mrs. Dorothy Slaton, 2516 N. LaFayette St., Evansville.
For licensure apply to:
Caroline Hauenstein, R.N., Exec. Sec. Indiana State Board of Nurses' Registration and Nursing Education, 307 Ober Building, 38 N. Penn St., Indianapolis 4.

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Corr. Sec., Della Parvin, 130 E. Jefferson St., Iowa City.
For licensure apply to:
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Kansas Federation of Licensed Practical Nurses, Inc.:
President, Mrs. Edith Martin, LPN, 1519 Andrews St., Winfield.
Secretary, Mrs. Alice Ledbetter, LPN, 2132 Adams St., Topeka.
For licensure apply to:
Eula M. Benton, R.N., Exec. Adm., Kansas State Board of Nurses' Registration and Nursing Education, 13½ West 6th Ave., Emporia.

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The Kentucky State Association of Licensed Practical Nurses, Inc.:
President, Mrs. Grace K. Appel, 208 First National Bank Bldg., Covington.
Secretary, Mrs. Mary F. McWilliams, Glenview.

For licensure apply to:
Kentucky Board of Nursing Education and Nurse Registration, Mrs. Lois E. Streuter, R.N., Executive Director, Suite 310, Republic Bldg., Louisville 2.

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Practical Nurses of Louisiana, Inc., P. O. Box 438, New Orleans 1:
President, Mrs. Lola D. Brady, 4252 Rightway St., Shreveport.
Exec. Sec'y-Treas., Mrs. E. Broome Sweeney, 1520 Canal St., Metairie Branch, New Orleans 20.
Colored Practical Nurses of Louisiana, Inc.:
President, Mrs. Rose Eli Jacobs, 3714 Willow St., New Orleans.
Corr. Sec., Mrs. Emily Mayo, 3714 Willow St., New Orleans.
Exec. Sec., Mrs. Ida M. Governor, 3714 Willow St. New Orleans.
Louisiana Colored Practical Nurses, Inc.:
President, Mrs. Eola Harding, 2850 Dryades St., New Orleans.
Sec-Treas., Mrs. Della P. Turner, 2089 Law St., New Orleans.
For licensure apply to:
Mrs. Elizabeth Engeran, Exec. Sec., Louisiana State Board of Practical Nurse Examiners, 806 Perdido St., Room 401, New Orleans.

Maine
No information regarding state association.
For licensure apply to:
State of Maine, Board of Regisration of Nurses, 303 Main St., Lewiston.

Maryland
Maryland Licensed Practical Nurses' Association, Inc.:
President, Berenice C. Long, 4940 Eastern Ave., Baltimore 24.
Secretary, Nellie F. Pearce, 4940 Eastern Ave., Baltimore 24.
For licensure apply to:
Mrs. Angela Shipley, Exec. Sec., Maryland State Board of Examiners of Nurses, 1217 Cathedral Street, Baltimore 1.

Massachusetts
Licensed Practical Nurses of Massachusetts, Inc., 271 Dartmouth St., Boston 16:
President, Catherine T. Gerrity, 271 Dartmouth St., Boston 16.
Secretary, Mrs. Lula A. Snow, 313 Orange St., Springfield.
For licensure apply to:
Dr. Robert C. Cochrane, Sec., Board of Registration in Nursing, Room 37, State House, Boston.

Michigan
Michigan Practical Nurses' Association, 575 Hollister Bldg., Lansing 8:
President, Mrs. Edith Sutton, 13331 Manning, Detroit 5.
Secretary, Esther Zarbock, Grand Rapids.
For licensure apply to:
Mary M. Anderson, R. N., Exec. Sec., Michigan Board of Nursing, 353 Hollister Bldg., Lansing 8.

Minnesota
Minnesota Licensed Practical Nurses' Association, 2612 5th Ave. So., Minneapolis:
President, Mrs. Dorothy Hines, 3607 3rd Ave. South, Minneapolis.
Corr. Secretary, Jennie Makinen, 2612 5th Ave. So., Minneapolis.
For licensure apply to:
Helen G. Schwarz, Minnesota State Board of Examiners of Nurses, 1234 Minnesota Building, St. Paul 1.

Mississippi
No state association for practical nurses.
Licensure—no information.

Missouri
Missouri State Association of Licensed Practical Nurses:
President, Mrs. Alma F. Van Matre, 745 S. Grant, Springfield.
Secretary, Mrs. Julia Berkley, 302 Waugh St., Columbia.
Licensure provided.

Montana
Montana State Practical Nurses' Association:
President, Mrs. Louise Salter, Route 1, Grove St., Missoula.
Secretary, Mrs. Ada Moe, Box 94, East Helena.
For licensure apply to:
Montana State Board of Nursing, State Capitol, Helena.

Nebraska
Practical Nurses' Association of Nebraska:
President, Ada Davenhill, 1725 So. 33rd St., Lincoln.
Secretary, Elsie Williams, 2421 S. 23rd St., Lincoln.
No licensure provided.

Nevada
Nevada Licensed Practical Nurses' Association:
President, Virginia Belcher, Route 2, Box 653, Reno.
Corr. Sec., Kathleen Guerin, Route 2, Box 653, Reno.
For licensure apply to:
Mary W. Williams, Exec. Sec., Nevada State Board of Nurse Examiners, 507 Washington St., Reno.

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Practical Nurses' Association of New Hampshire:
President, Mrs. Beatrice Van Duyne, 94 Ray St., Manchester.
Secretary, Mrs. Barbara Belisle, 40 W. Terrace St., Claremont.
For licensure apply to:
Mrs. Cecilia Sinclair, Room 324, Monadnock Bldg., 18 School St., Concord.

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Licensed Practical Nurses' Association of New Jersey, Inc.:
President, Mrs. Eleanor Rodney, 99 Cleveland Ave., President Park, South Amboy.
Corr. Secretary, Anne Kennerup, 115 N. 16th St., East Orange.
For licensure apply to:
Edna Antrobus, R.N., Exec. Sec., New Jersey Board of Nursing, 1060 Broad St., Newark 2.

New Mexico
No state association, but an Albuquerque Practical Nurse Association:
President, ——
Secretary, Mrs. Kelder Johnson, 810 W. Roslington Ave., Albuquerque.
Licensure provided.

New York
Practical Nurses of New York, Inc.:
President, Mrs. Christine B. Quell, 10434 123rd St., Richmond Hill 19.
Exec. Sec., Mrs. Lillian E. Kuster, 250 West 57th St., New York 19.
For licensure apply to:
Bureau of Professional Examinations and Registrations, State Education Department, 23 S. Pearl St., Albany.

North Carolina
North Carolina Licensed Practical Nurses' Association:
President, Mrs. Sybil D. Peace, Erwin Heights, Thomasville.
Secretary, Mrs. Betty Lupton, Box 601, New Bern.
For licensure apply to:
Miriam Daughtry, R.N., Sec., North Carolina Board of Nurse Examiners, P.O. Box 2129, 205 Warren Bldg., Raleigh.

North Dakota
North Dakota Licensed Practical Nurses' Association, Inc.:
President, Mrs. K. M. Dodge, 707 3rd St., N. W., Mandan.
Secretary, Mrs. Harry Gibbons, 1008 6th Ave. West., Williston.
For licensure apply to:
North Dakota State Board of Nursing Education and Nurse Registration, First Floor, State Capitol, Bismarck.

Ohio
Practical Nurses' Association of Ohio, Inc.:
President, Mrs. Mildred Smith, 1405 W. Jefferson St., Springfield.
Secretary, Mrs. Winifred Gilbert, 7 Marion Court, Toledo.
No licensure provided.

Oklahoma
Licensed Practical Nurses of Oklahoma:
President, Ann Tuel, 110 S. E. 37th St., Oklahoma City.
Secretary, Earma Berry, Route 1, Stillwater.
For licensure apply to:
Eleanore Moore, R.N., Educational Director, Oklahoma State Board of Nurse Examiners, 803 Cravens Bldg., Oklahoma City 2.

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Oregon Licensed Practical Nurses' Association:
President, Mrs. Aletha Parson, 6915 N. Villard St., Portland.
Secretary, Mrs. M. Lillian Trefry, Route 1, Box 22, McMinnville.
For licensure apply to:
Asst. Exec. Sec., Oregon State Board of Nurse Examiners, 778 State Office Bldg., 1400 S.W. 5th Ave., Portland 1.

Pennsylvania
Keystone State Practical Nurses' Association:
President, Mary Lou Utecht, 600 Linden Ave., Johnstown.
Corr. Sec., Mrs. Marie Wilmoth, 1125 Otter St., Franklin.
No licensure provided for practical nurses. Attendant nurses apply to Pennsylvania State Board of Nurse Examiners, Room 359, Education Building, Harrisburg.

Puerto Rico
Puerto Rico Practical Nurse Association, Calle 1, Casa 711, Barriada Bueno Vista, Santurce, P. R.:
President, ——
Secretary, Carmen de Jesus' Cruz, Box 346, Catano, P. R.
For licensure apply to:
Board of Nurse Examiners of Puerto Rico, F Building, PRRA Grounds—Stop 8,

P. O. Box 9156, Santurce, P. R.

Rhode Island

Licensed Practical Nurses' Association of Rhode Island, Inc.:
President, Mrs. Madeline G. Kalin, 47 Francis Ave., Pawtucket.
Corr. Sec., Mrs. Irene Hulcup, 100 Sterry St., Pawtucket.
For licensure apply to:
Board of Regulation and Nurse Education, Rm. 366 State Office Bldg., Providence 3.

South Carolina

Licensed Practical Nurses of South Carolina, Inc.:
President, Mrs. Elinor Huffman, 155 S. Bull St., Columbia.
Secretary, Mrs. Martha Seals, Rt. 5, 38 Osborne St., Union.
South Carolina Licensed Practical Nurses' Association (Colored):
President, Mrs. Pretto H. Lancaster, 16 Felix St., Charleston.
Secretary, Mrs. Helen J. Belton, Rt. 3, Box 78, Camden.
For licensure apply to:
South Carolina State Board of Registration of Nurses, Columbia.

South Dakota

South Dakota Licensed Practical Nurses' Association, Inc.:
President, Mrs. Charlotte Hansen, Box 549, Yankton.
Secretary, Lucille Groos, c/o St. Mary's Hospital, Pierre.
For licensure apply to:
Carrie A. Benham, R.N., Exec. Sec. and Director of Nursing Education, South Dakota State Nurses Examining Board, Mitchell.

Tennessee

Licensed Practical Nurses' Association of Tennessee:
President, Mrs. Ruth Kidd, Route 2, Maryville.
Secretary, Mrs. Dora Marvin, 1404 Villa Place, Nashville.
Licensure provided.

Texas

Licensed Vocational Nurses' Association of Texas:
President, Mrs. Myrtle Dehn Lane, Route 7, Box 690A, Fort Worth.
Cor. Sec., Mrs. Oreita Grimes, 1220 Belle Place, Fort Worth.
For licensure apply to:
Board of Vocational Nurse Examiners, 3rd floor, Austin Savings & Loan Bldg., 11th and Lavaca Sts., Austin.

Utah

Licensed Practical Nurses' Association of Utah, Inc.:
President, Muriel Anderl, 1904 So. 13th East, Salt Lake City 5.
Secretary, Miss Elouise Sandall, 1105 So. 8th, Salt Lake City.
For licensure apply to:
Frank E. Lees, Assistant Director, Department of Registration, 324 State Capitol, Salt Lake City.

Vermont

Practical Nurses' Association of Vermont, Inc.:
President, Mrs. Dorothy P. Howard, Washington County Sanatarium, Barre.
Secretary, Mrs. Mabel M. Buley, 3 Walnut St., Brattleboro.
For licensure apply to:
Mrs. Eleanor M. Dyke, R.N., Sec., Board of Registration of Nurses, 323 Pearl St., Burlington.

Virginia

Practical Nurse Association of Virginia:
President, Mrs. Mary Hill Parker, 3728 Ventor Road S. E., Roanoke.
Secretary, Mrs. Sadie Lawson, 1427 24th St. Newport News, Va.
Colored Practical Nurses' Association of Virginia:
President, Mrs. Mabel Easau, 306 W. Clay St., Richmond.
Secretary, Mrs. Hazel Jackson, 2819 Griffin Ave., Richmond.
For licensure apply to:
Mabel E. Montgomery, Sec.-Treas., Virginia State Board of Nurse Examiners, 1105-10 Central National Bank Bldg., Richmond 19.

Virgin Islands

No information about state association.
Licensure provided for practical nurses.

Washington

Washington State Practical Nurses' Association, 316 Medical Arts Bldg., Seattle:
President, Mrs. Alda Palmer, 5130 48th Ave. South, Seattle.
Exec. Sec., Mrs. Esther Kazerman, 1537 West 65th St., Seattle.
For licensure apply to:
Grace D. Cameron, R. N., (Supervisor P. N. Education), Department of Licenses, Professional Division, Olympia.

West Virginia

Practical Nurses of West Virginia, Inc., P.O. Box 68, Charleston:
President, Mrs. Edith D. Bossie, 2267 Roxalana Rd., Dunbar.
Secretary, Mrs. Mary E. Kessler, Route 1 Box 90, Beckley.
West Virginia Practical Nurses' Association (Colored):
President, Mrs. Emma L. Nunnaly, 1408 Second Ave., Charleston 2.
Corr. Sec., Mrs. Mildred Washington, 415½ Greenway Ave., So. Charleston.
No licensure provided.

Wisconsin

Wisconsin State Practical Nurses' Association, Rm. 7156, 161 W. Wisconsin Ave., Milwaukee 3.
President, Mrs. Esther Schmitz, 5615 W. Martin Dr., Milwaukee.
Secretary, Martha Koch, 936 N. 25th St., Milwaukee.
For licensure apply to:
Adele G. Stahl, R.N., Director, State Department of Nurses, 119 Monona Ave., Rm. 607, Madison.

Wyoming

No state ass'n. Licensure—no information.

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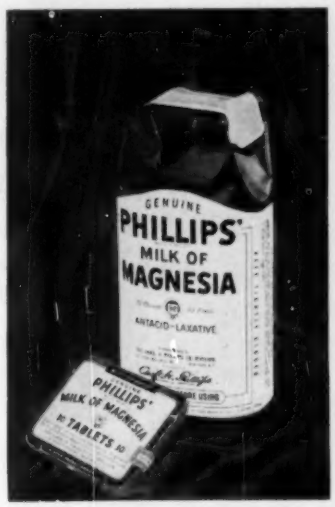

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Small But Vigorous

(*Continued from page 24*)

an LPN in red on a diamond-shaped white background. This will be worn on the left sleeve. The words "Practical Nurse," in red, on a white name tape will be worn on the front hem of the white cap. Until the student passes the state board examination, she wears name tapes with "Practical Nurse" in red on both the cap and the left sleeve.

The admirable class spirit has continued. The class is very proud of its record and in order to hold to it, they have formed an alumnae association. Now we are working with them on a pledge to be used by practical nurses. Although the Florence Nightingale pledge was used at the capping exercises, we believe we would like a special one for our practical nurse students.

There were many more applications for the June 1952 class, though a lack of the required two years of high school and family responsibilities prevented many young women from entering. The age groups ran practically the same as in 1951, with the students in the thirties showing more interest. Only two members of the class had not finished high school. Ten students were admitted and two withdrew. During the two weeks of orientation, the head nurses were very pleased with the adjustments of the new class, saying that these students seemed to have more confidence and to feel that they "belonged" with the nursing group. We are certain that each new class will continue the good records made by its predecessors.

Eye Protection Program

(*Continued from page 21*)

more complete eye examination. The nurse must be well trained in the recording of visual acuity of the employee. The acuity at the time of hiring is important in the event of future eye injuries and resulting compensation costs.

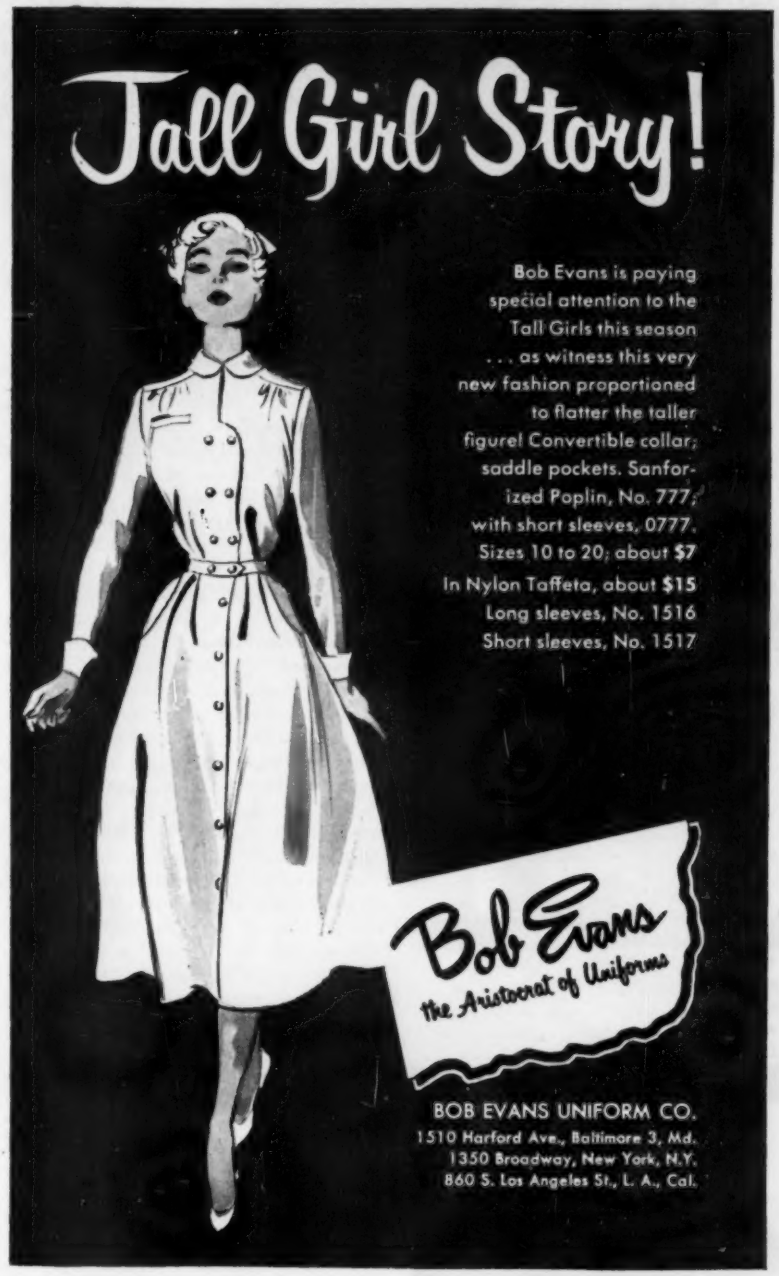
In having the eye protection program administered by the nurse, the psychological effect on the worker is important. The nurse knows the importance of providing the factory worker with goggles that fit properly. The worker, in turn, feels that the nurse has a sincere interest in his comfort and protection. In addition, the nurse knows about sanitation and sterilization in the care of the types of rubber, metals, or plastic that may be used in goggle construction. Here, the worker is assured of getting clean goggles on issuance and exchange. This also plays an important part in preventing contagious eye diseases in industry. Having been instructed by an optical repairman, the nurse is able to make small repairs on plano goggles, such as replacing screws. Thus, she aids in preventing the waste of equipment.

To have a well-rounded eye protection program, the people needing eye protection may be divided into three main classes:

Group I—Those who need 100 per cent protection all the time. In this group, all persons must wear shatterproof goggles if their vision is such that they do not need prescription lenses. If the employee needs protection more than 40 per cent of the time and wears prescription glasses, prescription goggles should be made for him.

Group II—Those people who need daily temporary eye protection for short periods of work. Here, monogoggles, to be worn over prescription glasses, should be issued.

(*Continued on page 32*)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Eye Protection Program

(*Continued from page 31*)

Group III—Those people who need eye protection for a day only. These people should be instructed to come to the health clinic to borrow the eye protection suitable for their needs and to return it when finished.

In this well-rounded eye protection program, a system of periodic goggle checking should be made to be sure that they are still in good condition and are free of the scratches or pitting which mar vision.

The problem of eye injuries is a big one and it is costly to the worker and the employer, but it can be solved by education. This is where we, as industrial nurses, have a big job to do.

REFERENCES

Resnick, Louis, *Eye Hazards in Industry*. Columbia University Press, N. Y., 1941. pp. 31-33.

"Essentials of an Adequate Industrial Eye Care Program." Pub. by Guild of Prescription Opticians of America, Inc.

Slow Convalescence

(*Continued from page 25*)

After four days, the temperature was down to 99 for a week, then it crept up once more. Mrs. Needham and Bill were discouraged. But the doctor was reassuring. "In due time you're going to be entirely well," he promised Bill. "These little ups and downs happen to almost everyone in a prolonged convalescence."

After two months, Bill often had a normal temperature, but occasionally he had around 99 or 99.2 degrees F. He was allowed more and more exercise. This was almost more of a problem to the nurse than the rest-all-day of their first ten days together. Bill's spirit came back, and after he'd played catch for five minutes one day, he skipped out of sight and played baseball for half an hour. The net result was back to bed for two days. Boylike, he grouched plenty; Mrs. Tracy knew that her best technique was not to discuss his grouchiness but to distract him. She helped him log a radio program of his favorites, and went to the library for extra books on sports and adventure for Bill.

In four months Bill's weight was up, his blood count was normal, and he was able to go to school for half days. "By next term, he'll be completely strong again," the doctor said. "You've done a marvelous job of day-after-day patience and common sense in a discouraging, unglamorous recovery, Mrs. Tracy. Your efforts may have made the difference between an invalid and a healthy boy."

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Montana	1953	Two years of high school and graduation from practical nursing school, or three years of experience, two of these in a hospital immediately prior to 7/1/53	18	No	$15.00	Permissive by examination, endorsement, or waiver
Nebraska		NO LICENSURE—PRACTICAL NURSING ASSN. TO INTRODUCE BILL FOR PERMISSIVE LEGISLATION DURING 1955 LEGISLATIVE SESSION				
Nevada		Two years' supervised hospital experience or one year course in approved school	18	Not stated	$5.00	Compulsory by examination or endorsement
New Hampshire	1951	Graduate of one year practical nursing course	18	Declaration of intention	$10.00	Permissive by exam. or endorsement by exam
New Jersey	1947	Graduate of one year practical nursing course and two years of high school	18	No	$5.00	Permissive by exam, endorsement, or original waiver
New Mexico	1953	Graduate of accredited practical nursing school or two years experience	Not stated	No	$7.50 $11.25	Permissive by exam, endorsement, or waiver until 7/55
New York		Graduate of nine months' practical nursing course	18	Declaration of intention	$10.00	Compulsory by examination or endorsement
North Carolina	1947	Graduate of one year course, 18 months' training in professional nursing school, or two years of experience	18 (students) 21 (others)	Yes	$10.00	Permissive by examination or endorsement
North Dakota	1947	Graduate of nine months' practical nursing course	18	Declaration of intention	$5.00	Permissive by examination or endorsement
Ohio		NO PRACTICAL NURSING LICENSURE				
Oklahoma	1953	Two years of high school and graduation from practical nursing school, or two years of experience for older women	Not stated	No	$15.00	Permissive by examination, endorsement or waiver until 7/1/54. After 1954, reciprocity applicant must be licensed by exam in home state.
Oregon	1949	Must be a high school graduate and graduate of practical nursing school—minimum of nine month course	Not stated	No	$10.00	Permissive by examination or endorsement; Will not accept application from anyone obtaining license by waiver
Pennsylvania	1919	APPLICANTS REFERRED TO AS "ATTENDANTS"—NO PRACTICAL NURSES				
		At least one year of training in an approved institution	19	No	$5.00	Permissive by examination or endorsement
Puerto Rico		QUESTIONNAIRE NOT RETURNED				
Rhode Island	1952	Two years of high school required for those under 30; grammar school and graduation from one year course required for those over 30	18	No	$15.00	Compulsory by examination or endorsement
South Carolina		QUESTIONNAIRE NOT RETURNED				
South Dakota	1949	Graduate of one year course, or two years' experience in hospital or home	18-55	No	$7.50 $10.00	Permissive by examination or endorsement
Tennessee	1951	Two years of high school and graduation from one year course in accredited practical nursing school, or three years of hospital experience	20	No	$10.00	Permissive by examination or endorsement
Texas	1951	Two years of high school and one year of training in accredited school	18	Declaration of intention	$10.00	Permissive by examination
Utah	1947	Two years of high school or equivalent and graduation one year course of accredited school	18	Yes	$7.50	Permissive by examination or endorsement
Vermont	1951	Two years of high school and graduate of one year course in practical nursing school	18	Declaration of intention	$10.00	Permissive by examination or endorsement
Virginia	1946	Graduate of nine months' practical nursing course	18	Yes	$10.00	Permissive by examination or endorsement
Washington	1949	Graduate of approved school of practical nursing or 450 hours of training in professional school of nursing	20	No	$10.00	Permissive by examination or endorsement
West Virginia		NO PRACTICAL NURSING LICENSURE				
Wisconsin	1943	Two years of high school and graduation from approved school, or four years of comparable hospital experience	18	Declaration of intention	$15.00	Permissive by examination or endorsement
Wyoming		NO PRACTICAL NURSING LICENSURE				

What

Dr. Lewis Bronstein takes this patient's medical history at Beekman-Downtown Hospital's Work Classification Unit.

Dr. M. McCall watches a cardiac patient taking "Master Two—Step Exercise Test," while "hooked up" to electrocardiograph.

Medical staff members of Beekman-Downtown Hospital "tune in," with Dr. Bronstein, on Electron Cardioscope which not only "broadcasts" and records the sound of the heart, but also on the television-like tube, delineates the electrocardiogram in a pulsating line

IN APPROACHING this subject, it is essential to first define stress. I shall consider that stress is to be used in the generic sense of a force or combination of forces, physical or emotional, which takes a place, or puts a load, upon the heart — to which the heart responds.

A second preliminary consideration in developing the subject is to recognize that the heart may be normal or diseased, and that its response may be different under these two circumstances. While there are many forms of cardiovascular disease, the ones we need consider because of their frequency are the rheumatic, hypertensive, and atherosclerotic varieties.

The consequences of stress that we must evaluate are anatomical, physiological, and emotional. Among the anatomical sequelae, we must include tears, ruptures, ulcerations, hematomas, and contusions. Among the physiological consequences, we must include forward failure, congestive failure, anginal syndrome, arrhythmias, and death. Among the emotional after-effects, we must deal with the taboos, phobias, and prejudices of our society as well as iatrogenic heart disease. By iatrogenic heart disease, we mean not only that group of imaginary heart diseases engendered by physicians, but also those abetted by the ancillary professions like nursing, social work, and public health, whether voluntary or governmental, and those cases in which the magnitude of the cardiac disability is exaggerated by the people who come in contact with the patient. The seriousness of the problem is shown by the fact that in a recent report from a Work Classification Unit in New York, it was found that approximately 25 per cent of the patients seen did not have heart disease. Thus, the first thing one must determine is whether a person is or is not a cardiac. This implies the avoidance of the label until the evidence is clear. It

Stress Does to the Heart

by ***Louis N. Katz, M.D.***
Director of Cardiovascular Department, Medical Research Institute, Michael Reese Hospital, Chicago, Illinois

also implies seeking out those who are not yet aware of the fact. More trouble can be anticipated from the *unknown* cardiac than the *known*.

Blood circulation is adjusted to meet stresses. The survival value of an individual depends on this ability to adjust, except insofar as he is rescued from this necessity by a sheltered environment or a paternalistic society. Attack and escape are the means of overcoming or evading one's enemies in nature, and the circulation is a key in the ability to do so. It is necessary to increase the flow of blood promptly, to divert the blood to the brain, heart, and lungs, and to the muscles which are to be used. This is accomplished by the autonomic nervous system, which is aided by the hormones from the adrenal medulla. The effectiveness of this adjustment can be improved by training, and it can be impaired by lack of use. Too many people lead overly sheltered lives, with the result that they have atrophied their ability to meet emergency situations.

Stress causes changes in the circulation. In the case of the peripheral circulation, blood vessels open up or shut down, depending on the throttle action of the arterioles and venules — those stopcocks between the arteries and veins which divert the blood to where it is needed most. In the case of the failing circulation, as in shock, the throttles tend to keep the blood going to the vital parts of the body, the brain, lungs, and heart and, if possible, to the liver and other internal organs.

Associated with these peripheral reactions to stress, the heart itself increases the quantity of blood it pumps per minute, both by an increase in its frequency and by an increase in its stroke. The heart can quadruple its stroke output and can increase its rate to about 280 beats per minute, and even these high rates cannot be sustained for any protracted period without detriment.

The heart rate and peripheral vessel adjustments are carried out by the nervous system and the hormones of the adrenal medulla, and so, to a certain extent, is the adjustment of the heart's stroke output. However, for the latter, there is an equally important mechanism—the dilation of the heart. Through its dilatation and shrinkage, the heart can attune its output so finely that it can put out just as much blood as comes to it—no more, no less. It is this which makes it a most remarkable pump, a pump that industry, with all its servomechanisms, has not yet been able to duplicate. When a stress situation persists for any length of time, the heart has yet another means of adjustment at its disposal—it increases in mass, it hypertrophies. By this means, it multiplies the working units at its disposal. Thus, the heart has at its disposal four means by which it can adjust its work to stress. It can speed up the number of its beats; it can dilate; it can hypertrophy if the stress persists for some time; and it can alter its contractile power independent of these other factors.

It is obvious that the heart, like any machine, has limits to its effective response to stress. The whipping up of contractile power by its nerve supply is limited in extent. It cannot continue to hypertrophy beyond a certain point, because the blood supply to the heart muscle cannot keep pace. It cannot continue to dilate, because excessive dilatation leads to a decrease rather than an increase in work. It cannot speed up beyond a point, because at such excessive heart rates the detrimental factors outweigh the benefits.

As the heart speeds up beyond its limit, there develops a coronary insufficiency, i.e., the blood flow through the coronary arteries supplying the heart declines. As the heart speeds up beyond its limits, its efficiency as a pump goes down; it requires a disproportionate amount of energy to do the work. As the heart speeds up beyond its limits, the time available for recovery is cut short because the time in systole, when the heart contracts, is affected by the faster beating much less than the time in diastole, when the heart is recovering. With

Left to right: Margaret Barry, vocational counselor, Dr. L. Bronstein, and Melba Gould, medical social worker, discuss the limitations on physical activities of cardiac patients.

Lt. to Rt.: Dr. Norman Plummer, Medical Director of N.Y. Telephone Co. and Conference Chairman; Carl Whitmore, Chairman of Board, N.Y. Heart Ass'n; Maj. Gen. Howard Snyder, physician to Pres. Eisenhower; and William Prince, Chicago industrialist.

less time to recover, with a poorer blood supply, and a greater energy turnover, the heart, when it speeds up its rate, must go into debt. This is an oxygen debt since oxygen is the ultimate source of its energy. Now, the oxygen debt of the heart is so low that it must repay during the recovery phase of the heart beat for the energy cost of its contraction.

A term in current use by physicians is cardiac reserve. It has had many definitions. To me, cardiac reserve is simply the amount of speed-up in rate of beating, the amount of dilatation, the amount of hypertrophy, and the amount of whipping up by its nerve supply that the heart can summon to meet an increased stress effectively. Cardiac reserve is thus the difference between the existing state of these four variables and their maxima.

The diseased heart is no different from the normal heart in its response to stress, except that its reserves are lower. This comes about because diseases of the heart cause stresses in themselves on the one hand and encroachments upon the upper limits of effective performance on the other.

Heart disease produces stresses. Thus, essential hypertension is a stress upon the left heart, and pulmonary hypertension, revealed by catheterization, upon the right. Both are increases in resistance load. In heart disease caused by lung disease, in hyperthyroidism, and in anemia there is a high output by the heart due to an increased blood flow to it. This represents an increase in input load. Valve deformities and congenital shunts produce stresses upon the muscle of the heart. These are hidden loads which the physician locates. All of these stresses cut down cardiac reserve by leading to some degrees of tachycardia, whipping up, dilatation and/or hypertrophy. They increase the expenditures of the heart.

Heart disease does something more. It may, as in an infarction, destroy some of the heart muscle machinery, or, as in other forms of heart disease, impair its machinery more subtly. When this occurs, the heart calls upon its reserves to meet its job. As a result it speeds up its rate of beat, it dilates, and it hypertrophies.

Work, one's vocation, like play, one's avocation, is a normal state of affairs. It is as normal as pregnancy and eating. Therefore, work to which one is accustomed cannot be considered as detrimental, per se. One would have to blame sleep and taxes (two other unavoidable factors in our existence) as much as work for cardiac disability. I cannot understand why an employee who has a heart attack while at work should be considered to have developed it because of the work, any more than one would blame sleep when such an attack occurs during sleep. Of course, if it can be shown that the employee was subjected to an excessive stress not ordinarily sustained on the job, the situation would be different.

No work situation can cause coronary closure and an infarction of the heart, unless there is preexisting coronary arteriosclerosis present, or, of course, when there has been a penetrating injury, or a severe non-penetrating injury to the chest. The heart is so shielded in its chest cradle that non-penetrating injury must be severe to traumatize a coronary artery. In the presence of coronary artery disease, trauma may lead to ulceration of a placque with secondary clot formation, or it may cause a hemorrhage in the vessel wall with coronary closure. Such events are not too common and, without doubt, require an extraordinary effort on injury. When there is a marked restriction of the coronary bed, stress in coronary disease may lead to disability in another way, but the effort must be extraordinary and the symptoms and signs must follow within a few hours.

Work cannot cause coronary disease, hypertension, or rheumatic heart disease. Only under special circumstances can toxic materials in a job, operating over a long period of time, lead to high blood pressure. Only under special circumstances can certain particulate matter in the dust inhaled in certain industries lead to a special form of heart disease, chronic or pulmonal. But these are the exceptions that prove that work does not lead to heart disease.

Work can aggravate the symptoms of heart disease which are already present, but this is either the result of an extraordinary effort unusual to the job or progress of the heart disease independent of the job. In the former case, its unusual character needs to be established. In the latter, symptoms like shortness of breath, tiredness, puffy ankles, or chest pain will warn the employee that he needs a checkup. It is vital to uncover the presence of heart disease which might limit full employment at one's accustomed job. This demands periodic health surveys of all employees. It is this responsibility that is the common meeting ground of the industrialist, the labor union leader, the doctor, the government bureau, and the private health agency. It is in conferences such as this that difficulties of seniority rights, workmen's compensation, insurance of employees, and the like will have to be explored and solutions offered. It is from a conference such as this that suggestions should come

for better handling of litigations in cases involving stress and the heart.

Death of cardiac origin may arise on the job. It may be due to physical penetration of the heart or to stresses indirectly applied to it which cause tears or ruptures or which may lead to the incoordinate type of beat ineffective for blood propulsion (ventricular fibrillation). Lesser damage of these kinds may lead to cardiac disability.

Finally, I should like to say a few words about Cardiac Placement of Work Classification Units. This program has revealed that most work is not too strenuous. It has also disclosed that motivation, mental anxiety, taboos, and prejudices play as great a role in heart conditions as the type of work done. It has emphasized that housework may be as strenuous as factory work, and that the energy expended going to and coming from work is as important as the work itself. When considering work, one must be concerned not only with its amount but with its rate. It is not so much how high we climb the stairs but how fast. Perhaps we could work out some system of officially permitting "featherbedding" to a mild degree for the small minority of employable cardiacs who require it. This would result in the employer obtaining loyal steady employees. In this connection it is best to keep a worker at the job to which he is accustomed, even if he must work slower or for fewer hours, than to transfer him to a strange job. Of course, this is not always possible, and when the position is a key one, a pace-setting one, or one with potential risk of accident or production cutback, then, of course, the person must be given different work. Although still in its infancy, the approach of the Cardiac Placement of Work Classification Units has been very promising in bringing about better understanding of the cardiac in industry.

A Special Unit in Work Classification

by Helen M. O'Shaughnessey
Director, Community Program,
New York Heart Association

The seriousness of the problem of the cardiac in industry has been recognized by management, labor, and the medical professions. Therefore, we are presenting, in part, the report of Miss Helen M. O'Shaughnessy, Director of Community Programs on Work Classification Units, sponsored by the New York Heart Association, Inc. This is the pioneer project in the field, and has already been used as a model by other heart associations.

We wish to thank the New York Heart Association for the permission to present the material devoted to the "Heart in Industry."—THE EDITORS

THE nation's first Work Classification Unit was set up in 1941 as a functional part of the Adult Cardiac Clinic, Bellevue Hospital, under the direction of Dr. Leonard J. Goldwater. This unit was established because of the need to solve the problems relating to the placement of persons with heart disease. The Work Classification Unit provided consultation service to the Handicapped Placement Division of the New York State Employment Service, Division of Vocational Rehabilitation of the New York State Education Department, New York City Department of Welfare, sheltered workshops, industry, and public health and welfare agencies. The unit offered opportunities for research as well as service. It gave advice relating to occupational adjustment of employed persons who develop heart disease as well as advice relating to proper placement of cardiacs who are seeking employment.

The experience and techniques of this pioneer Work Classification Unit have furnished guide lines for the development of similar facilities in other parts of the country as part of the American Heart Association's nationwide Cardiac in Industry program to assist workers with heart disease.

Beginning in 1951, the New York Heart's Committee on Cardiovascular Disease in Industry, in an effort to broaden this program, established Work Classficiation Units in four additional affiliated Cardiac Clinics: University Hospital, Beekman-Downtown Hospital, Methodist Hospital in Brooklyn, and at the Hospital for Joint Diseases. The Association provides a small yearly grant to the hospitals for the operation of these clinics.

The work evaluation of a patient is based on a three-way approach to the problem. The units are staffed with a cardiologist, a member of the hospital staff; a medical social worker, a member of the Social Service Department of the hospital; and a vocational counselor from the staff of the New York Heart Association. Medical, social, and vocational factors are taken into consideration before making a recommendation as to a cardiac's ability to work. The objective of the unit is to fit the person into productive employment. There are two phases, (1) advising patients who have had work experience before their illness, and (2) guiding young cardiacs who are looking for their first job.

On his first visit to the clinic, the patient is interviewed by the medical social worker and the vocational counselor, and he is then examined by the physician. Special emphasis is placed on a complete medical evaluation, since accurate diagnosis is all important. The cardiologist, medical social worker, and vocational counselor, in their conference at the end of each clinic session, take into consideration the total problems of the individual. The patient usually makes two visits to the unit. On the first one, laboratory tests may be ordered if necessary, and one week later the patient returns for the first report. Persons with involved social or vocational problems may need to see the social worker or the vocational counselor several times before plans can be satisfactorily worked out.

The following are requirements for referrals to Work Classification Units:

1. The patient must be known, on good medical authority, to have a cardiovascular disease.

2. Referrals to the clinic are primarily for classification. This is not a diagnostic clinic.

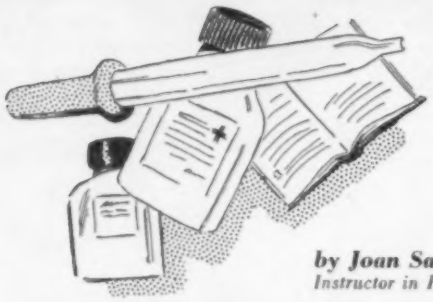
3. A complete documented medical diagnosis must be available at the first clinic visit.

4. There must be an associated work problem.

5. Patients will be expected to cooperate voluntarily in reasonable follow-up studies.

6. Cases will not be accepted where compensation claims are in process of litigation.

The Work Classification Units welcome referrals from small and large industries, labor unions, private physicians, and any other groups interested in having work evaluation of persons with heart disease. Referrals to the units may be made to Miss Margaret Barry, Vocational Counselor, New York Heart Association, 270 Park Avenue, New York 17, N. Y.



Advances and Trends in Drug Therapy

by Joan Sarvajic, R.N.
Instructor in Pharmacology, Bellevue Schools of Nursing, New York City

Prophylactic Drug Therapy In Rheumatic Fever

ALTHOUGH reports of clinical investigations on prophylactic drug therapy in rheumatic fever are by no means conclusive, a sufficiently impressive number of studies have been made in this field to warrant attention to findings. Current etiological concepts form the basis for prophylactic therapy. This approach is valid. If prophylactic therapy proves successful, in addition to the prevention of the disease, evidence for a basic etiological concept would be obtained.

The role of the hemolytic streptococcus in the precipitation of both initial and recurrent attacks of rheumatic fever is now well established. Furthermore, it is general experience that hemolytic streptococcic respiratory infections in children and young adults who have previously had one or more attacks of rheumatic fever cause recurrence of the diseases in 40 ot 50 per cent of the cases. Once the tissues have been invaded by these streptococci, neither sulfonamide drugs nor penicillin will prevent the subsequent development of rheumatic fever. The objective in prophylaxis is to prevent the streptococci from localizing and multiplying in the tissues.

The Problem of Rheumatic Fever Prevention

The problem of rheumatic fever prevention can be divided into two phases: the first is concerned with the prevention of recurrences; the second involves the prevention of initial attacks of the disease.

It is an important consideration that rheumatic fever is a repetitive disease and that with each new episode the degree of cardiac damage may be increased. Furthermore, the mortality from first attacks of rheumatic fever is relatively low. Most deaths from rheumatic heart disease, at least in children and young adults, are traceable directly to recurrences of active rheumatic fever. Therefore, anything that can be done to reduce the incidence of such recurrences should contribute toward the lowering of the mortality rate and the reduction of the crippling effects of this disease.

A review of clinical studies indicates that several drugs have been highlighted as possible agents for successful prophylaxis in rheumatic fever. These include vaccine preparations, salicylates, sulfonamides, and penicillin.

Vaccine Prophylaxis of Rheumatic Attacks

During the past twenty years, attempts have been made to reduce the incidence of rheumatic attacks by vaccination against streptococci. Results were not convincing and the procedure did not achieve widespread use. Since 1933, Wasson and Brown have been restudying vaccination. At first they used a crude hemolytic streptococcus toxin; more recently they attempted immunization by a tannic acid precipitated toxin from the same streptococci.

Continuing in the field of vaccine prophylaxis, just last year Debray, Wattebled, Bertrand, and Malaput reported on the treatment of eighty-two patients whose diagnosis was rheumatic carditis. In these cases intra-arterial injections of streptococcus anavaccine were utilized. This vaccine, also known as "cardiostreptin," is a preparation consisting essentially of the streptococcic microorganism, its lysate, and its anatoxin. In addition to the vaccine, these patients were given one gram of aspirin each day on which the injections were made.

In both studies, rather impressive results were published indicating a definite decrease in the number of recurrent rheumatic fever attacks. These clinical studies, however, included only comparatively small numbers of patients and, at present, it is believed that prophylaxis with streptococcic vaccine is of uncertain value.

Salicylates in Rheumatic Fever Prophylaxis

For many years physicians have attempted to decrease the number of rheumatic recurrences by the administration of a salicylate between attacks. Some physicians gave small doses daily for several months; others gave a salicylate one week of each month. Little evidence has been obtaind to indicate that salicylates, thus given, prevent rheumatic relapses. Schlesinger, in 1938, recommended that acetylsalicylic acid be given to rheumatic children as soon as an infection of the upper respiratory tract developed and that its administration be continued until three or four weeks after the infection had subsided. He expressed the belief that the number of relapses and mortality rate were definitely reduced.

The Role of the Sulfonamides

Although the exact value of sulfonamide prophylaxis for rheumatic fever appears still to be a matter for some debate, for the present, the arguments in favor of the procedure appear to be much stronger than those advanced against it.

In a study begun in 1936, the effects of sulfonamide prophylaxis were observed for more than nine-hundred "patient-seasons"[1] at nine separate institutions and in several different sections of the country. Rheumatic patients whose disease was not "active" at the time were given sulfanilamide in small daily doses throughout the fall and winter months when hemolytic streptococcal infections of the respiratory tract usually occur.

---

[1]A patient-season refers to the treatment of one patient over one fall and winter season. Hence "two patient-seasons" would refer to the treatment either of two patients during one fall and winter season, or of one patient over two fall and winter seasons.

Among the rheumatic patients not given sulfonamides, there were six times as many acute recurrences and almost twice as many deaths as among those who received sulfonamide prophylaxis. On the basis of present day knowledge, sulfonamide prophylaxis is approved for most rheumatic patients.

Preventing Rheumatic Fever by Penicillin Therapy

When penicillin became available, it seemed reasonable to believe that this antibiotic might be as effective or more effective than the sulfonamides in suppressing the growth of streptococci in the upper respiratory tract. The basis for this belief was the fact that *in vitro* penicillin was fouund to be a more potent antistreptococcic agent than the sulfonamides and that *in vivo* penicillin was observed to be more effective than the sulfonamides in eradicating hemolytic streptococcic respiratory infections.

In some rather intensive studies made at the Good Samaritan Hospital in relation to rheumatic fever prophylaxis with penicillin from July 1946 through June 1947 the following objectives were set up: (1) to determine whether orally as well as intramuscularly administered penicillin could be effective in reducing the hemolytic streptococcic carrier rate among ward patients; (2) to determine whether such reduction in carrier rate together with prompt penicillin therapy of patients acquiring hemolytic streptococcus infections would reduce the spread of infection among ward patients; (3) to determine whether hemolytic streptococci could be eliminated from patients' throats by relatively infrequent doses of orally administered penicillin; (4) to gain information as to whether penicilin might be practical for the prevention of hemolytic streptococcus infection and rheumatic fever; and (5) to decermine whether the prompt treatment of hemolytic streptococcus infections would influence the immune response and prevent recurrences of rheumatic fever.

Significant observations made and summarized in the course of this study follow:

Orally administered penicillin in doses of 300,000 to 1,000,000 units per day for ten days suppressed hemolytic streptococci in the throats of all but 2.1 per cent of patients during therapy and completely eradicated the organisms in 77.7 per cent of the cases.

The presence of tonsils was believed a possible factor which might prevent penicillin therapy from being effective in some cases.

The reduction in streptococcus carrier rate by penicillin and the prompt treatment of hemolytic streptococcus infection did not completely prevent the spread of streptococcus infections among ward patients.

The suppression of hemolytic streptococci in the throat, by doses of 100,000 units to 200,000 units of penicillin as infrequently as three times daily, offers indirect evidence that a similar dosage schedule of the antibiotics might be practicable for the prevention of hemolytic streptococcus infections and rheumatic fever prophylaxis.

A possible drawback to the oral use of penicillin for rheumatic fever prophylaxis is the danger of producing resistant strains of hemolytic streptococci and of nonhemolytic streptococci in instances when therapy fails to eliminate these organisms completely from the throat. The development of pnicillin-resistant non-hemolytic streptococci would seem especially undesirable because of the possibility that such resistant organisms might subsequently become the cause of bacterial endocarditis that might not be amenable to penicillin therapy. Although reports have appeared which suggest the risk of developing penicillin-resistant strains is real, these observations were made in patients receiving relatively small doses of penicillin, 50,000 units twice daily. The need of further study in reference to this phenomenon is indicated.

Of ten clinical and five sub-clinical hemolytic streptococcus infections in patients with rehumatic fever, who were promptly treated with penicillin, there were no recurrences of rheumatic fever.

Comparable reports have encouraged the development of comprehensive prophylactic programs on a community basis. The schedule outlined below is an example of how penicillin therapy is being utilized in an active program for rheumatic fever prevention in Newton, Mass.

PENICILLIN PROPHYLAXIS SCHEDULE FOR RHEUMATIC FEVER

Persons Needing Protection	Recommended Schedule
The Rheumatic Fever Family	
1. The patient with inactive rheumatic fever	Course A for 10 days Course B for 10 days
2. (a) Any other member of family (parent or sibling) with suspected[3] or proved streptococcic infection, and (b) Simultaneously all other members of famliy	Continuous daily prophylactic therapy for five years from date of last attack (course A)[2]
Advisable, but probably not always possible.	
The Nonrheumatic Family	
1. Any member with suspected or proved streptococcic infection	Course B for 10 days
2. Any others exposed to streptococcic infection	Course A for 10 days (so that no one in the family will continue to carry the organism)

Penicillin course A (prophylactic treatment): I tablet penicillin, 100,000 units, three times daily, orally: on arising, one hour before lunch, and at bedtime.

Penicillin course B (for treatment of streptococcic infections): 2 tablets (100,000 units each) five times a day for five days; a daily intramuscular injection of procaine penicillin, 300,000 units, may be substituted for any day of oral penicillin therapy. Oral penicillin loses effect when mixed with food. The tablets should be given at least 45 minutes before or three hours after meals.

Addenda: (a) All suspected cases of scarlet fever should be included. (b) Head colds and colds with cough as an outstanding symptom are usually not streptococcic.

[2]Any febrile illness in a patient receiving this much penicillin daily will not be benefited by increased penicillin theraply. A throat culture should be taken and appropriate therapy must be given.

[3]Criteria for diagnosis of suspected streptococcic infections: all respiratory infections in which the throat is red or sore, has an exudate, or in which otitis or cervical adenitis is present, and when the temperature is 100 F. or more orally, or 101 F. or more rectally.

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CARDIOSTREPTIN — **ANAVACCINE**

DESCRIPTION: "Cardiostreptin" or streptococcus anavaccine is a preparation consisting of streptococcic organisms, the lysate, and anatoxin. At present it is undergoing preliminary and intensive investigations.

MODE OF ACTION AND EFFECTS: According to the authorities Debray, Wattebed, Bertrand, and Malaput, rheumatic fever is characterized by sensitization of the arterial system, and it is suggested that desensitization be carried out on the sensitized arterial tissue itself. The intra-arterial injection of cardiostreptin apparently decreases or completely eliminates the inflammatory process of rheumatic carditis, thus preventing development of a permanent lesion.

ASSOCIATED THERAPEUTIC USES: Cardiostreptin is being studied for possible use in rheumatic carditis. Preliminary reports indicate that, in some instances, complete recovery has been made from acute attacks of the disease. Occasionally, patients with predominantly inflammatory lesions were considerably benefited, while improvement was less pronounced with old cicatricial lesions. Results were particularly satisfactory in patients without preceding cardiac lesions, while results were only moderately good in patients with badly decompensated old valvular lesions, mitral stenosis, or severe disturbances of rhythmn.

Of forty-two patients, fifteen were followed for four years, eight for three years, and nineteen for two years. They were able to lead a nearly normal life without taking any cardiac tonic or antirheumatic drug.

AVAILABLE PREPARATIONS: This drug is marketed as "Cardiostreptin" or "Streptococcus Anavaccine." A comparable preparation is sold in vials by Lilly and Co. as "Streptococcus Vaccine Arthritic Strains."

THERAPEUTIC DOSAGE AND ADMINISTRATION: Injections of cardiostreptin are made into the femoral artery distal to a tourniquet applied tightly enough to occlude the venous but not the arterial circulation. Fifteen injections are given at intervals of three or four days up to the fifth injection; then at intervals of five or six days. The dosage schedule follows: first dose, 0.25 cc.; next two doses 0.50 cc.; the fourth and fifth doses 0.75 cc.; sixth and seventh doses, 1.0 cc., until 2.0 cc. is given in one injection. The intra-arterial administration of the vaccine is the physician's responsibility. The patient is on a light diet during therapy, and receives 1.0 Gm. of aspirin every day on which the injection is given.

TOXICITY: As with the parenteral administration of any biological, the possible danger of an anaphylactic reaction must be anticipated by both physician and nurse. The mechanism of the reaction may be ascribed to the interaction of the antigen (sensitizing constituent) with a sensitizing antibody (or reagin). Renewed exposure to the sensitizing antigen may elicit an antigen-antibody reaction where there is a release of histamine and probably other substances in the "shock tissues" with the symptoms characteristic of anaphylactic reaction.

PRECAUTIONS: Nurse and physician both must be constantly aware of the possibility of an anaphylactic reaction. The use of epinephrine or ephedrine and antispasmodic drugs, which exert no anti-histaminic action but act upon tissues affected, may be ordered in an emergency. Control of anaphylaxis may also include administration of histamine-antagonizing agents such as benadryl, anahist, pyribenzamine, or trimetone.

SODIUM SALICYLATE — **ANTIRHEUMATIC ANALGESIC**

DESCRIPTION: Sodium salicylate is the sodium salt of salicylic acid.

MODE OF ACTION AND EFFECTS: Sodium salicylate exerts a specific action in the treatment of acute rheumatic fever. Rheumatic fever is generally accepted as being a response to a previous bacterial infection. It is unlikely, therefore, that the salicylates act on the cause of the disease. Some hold that it is a purely symptomatic treatment and that salicylates may be replaced by a mixture of other antipyretic and analgesic remedies. However, experience seems to indicate that none of the members of the antipyrine group is as efficient in relieving the pain and discomfort of this condition as are the salicylates. Although it is not certain that the salicylate treatment reduces the ultimate damage to the endocardium which is the common complication of rheumatic fever, it has become increasingly evident that the drug, by some unknown medium, alters the tissue response and actually exerts a specific therapeutic effect. Rheumatic fever affects predominantly the mesenchymal structures, whose principle substrate is hyaluronic acid. Salicylates inhibit the action of hyaluronidase, which has the power of hydrolyzing hyaluronic acid, and it has been suggested that this is the mechanism by which the saliyicylates exert their beneficial effect in rheumatic fever.

ASSOCIATED THERAPEUTIC USES: The most important use of sodium salicylate is in the treatment of acute rheumatic fever. Some other members of the aromatic series are useful in this condition, but none is superior to the salicylic preparations in efficacy. Under this treatment, the pain, swelling, and redness in the joints rapidly lessen, the temperature falls, and the disease makes less demands of the patient.

AVAILABLE PREPARATIONS: Sodium salicylate is available in tablets of 300 and 600 mg. It is also available as sodium salicylate ampuls, a sterile solution of the drug in water for parenteral use.

THERAPEUTIC DOSAGE AND ADMINISTRATION: In the treatment of acute rheumatic fever, adequate doses of sodium salicylate should be given promptly. The drug is given, in doses of 0.1 Gm. per pound of body weight per day, in divided doses at three hour intervals. For the average adult this amounts to 10 to 16.0 Gm. per day. Sodium bicarbonate is frequently given with the salicylate to minimize gastric irritation.

TOXICITY: The ordinary symptoms of salicylate toxicity are nausea, vomiting, and sometimes diarrhea, a feeling of heaviness and fullness in the head, with hissing or roaring sounds in the ears resembling those produced by quinine. These may be followed by some confusion and dullness and by indistinct sight and hearing. Very often the patient complains of excessive perspiration and a sense of warmth all over the body.

Dyspnea, hyperventillation, and hypoprothrombinemia are symptoms of acute toxicity.

PRECAUTIONS: Some individuals are peculiarly sensitive to the action of the salicylates. In these cases, comparatively small doses are followed by symptoms which are generally of only slight importance but which are sometimes sufficiently grave to cause anxiety.

The severity of the toxic symptoms observed in patients receiving salicylates is dependent upon the plasma salicylate level. Since experimentation to date does not indicate that maintenance of especially high salicylate plasma levels is superior therapy, frequent estimates by laboratory examination should be made to prevent them.

QUINIDINE — CARDIAC DEPRESSANT

DESCRIPTION: Quinidine is a stereoisomer of quinine and is obtained from various species of Cinchona.

MODE OF ACTION AND EFFECTS: Quinidine is a general protoplasmic poison which manifests its action on the heart by depressing the conductivity in the ventricle as well as in A-V node and auricles. It causes a prolongation in the refractory period and decreases the excitability of the myocardium and the S-A node, thereby slowing the heart rate. Unlike digitalis, quinidine does not improve the capacity of the heart to contract; it merely renders it less excitable to stimuli and retards the rate of conduction of the normal impulses.

ASSOCIATED THERAPEUTIC USES: Quinidine is used therapeutically because of its depressant action on the myocardium. It is indicated in paroxysmal tachycardia of supraventricular origin; paroxysmal ventricular tachycardia; prophylactically, to prevent recurrent paroxysmal arrhythmias; premature systoles, particularly of ventricular origin, like those that occur in coronary disease; paroxysmal auricular fibrillation or fibrillation of less than three months duration; and in auricular flutter.

AVAILABLE PREPARATIONS: Quinidine sulfate is available in powder form, in capsules, and in tablets of 100, 200, and 300 mg.

THERAPEUTIC DOSAGE AND ADMINISTRATION: Quinidine is usually administered orally in the form of its sulfate, but in emergencies, it may be given intravenously. The effects of the drug are cumulative, maximum effects being elicited in two to four hours and persisting six to eight hours. In order to avoid the relatively rare instances of idiosyncrasy to the drug, a test dose of 0.2 Gm. is usually administered. Should no evidence of toxicity appear in two to three hours, 0.4 Gm. may be given every two hours until the desired therapeutic response is obtained or until five doses have been given. This may be repeated for two to three days, increasing the dose by 0.2 Gm. each day, if necessary. As much as 4.0 of the drug may be given daily.

TOXICITY: The drug in overdosage may produce auriculoventricular block, extrasystoles, paroxysmal tachycardia, cardiac standstill from inhibition of auricular contraction, intraventricular block, and ventricular fibrillation.

PRECAUTIONS: The patient receiving quinidine should be under close observation, and the drug should be discontinued when the rhythmn has returned to normal or when a significant increase in heart rate, intraventricular block, petechiae, cinchonism, or other evidence of toxicity occur. Evidence of cinchonism — tinnitus, vertigo, visual disturbances, nausea, headache, confusion, etc.—may develop during therapy with large doses of the drug. Of more serious import are respiratory disturbances (asthma, respiratory arrest) or paroxysmal tachycardia which may follow the slowing of the auricular rate.

Quinidine is contraindicated in patients manifesting an idiosyncrasy to the drug, in those giving a history of embolism, heart block, congestive failure of long standing, or mitral stenosis, in patients with cardiac enlargement, and in the aged.

PRONESTYL HYDROCHLORIDE — CARDIAC DEPRESSANT

DESCRIPTION: This is a synthetic preparation which is also known as procaine amide hydrochloride.

MODE OF ACTION AND EFFECTS: Pronestyl appears to decrease the irritability of the ventricular muscle, thereby reversing abnormal rhythmns. Similarly in auricular arrythmias, pronestyl slows auricular rate and may re-establish normal sinus rhythmn.

ASSOCIATED THERAPEUTIC USES: Pronestyl is utilized in anesthesiology and in cardiology. In the former it is indicated for the correction of cardiac arrythmias which occur during anesthesia. It is especially valuable in cyclopropane anesthesia, intrathoracic surgery, endotracheal intubation, and surgery in cardiac patients in whom the incidence of potentially severe arrythmias is high. In conscious patients, pronestyl is effective in the treatment of ventricular tachycardia and runs of ventricular extrasystoles.

AVAILABLE PREPARATIONS: Pronestyl hydrochloride is available as a 10 per cent aqueous solution (100 mg./cc.) for intravenous use and in gelatin capsules supplying 0.25 Gm. per capsule for oral use.

THERAPEUTIC DOSAGE AND ADMINISTRATION: Oral administration of pronestyl is preferred. Intravenous administration is limited to emergencies or cases where oral administration is impossible i.e. during anesthesia. In anesthesia, the suggested intravenous dose for ventricular arrhythmias ranges from 100 to 500 mg. For ventricular arrhythmias in conscious patients, the intravenous dose ranges from 200 to 1000 mg.

The intravenous dose for auricular arrhythmias in both conscious and anesthetized patients averages 500 mg., although up to 1.0 Gm. is sometimes given.

Ventricular tachycardia in the conscious patient is treated by an initial dose of 1.0 Gm. of pronestyl followed by 0.5 to 1.0 Gm. every four to six hours. The total daily oral dose for auricular arrhythmias in conscious patients ranges from 1 to 5.0 Gm. given in three or four divided doses. Initially, 1.25 Gm. may be given, followed in one hour by 0.75 Gm. if there are no electrocardiographic changes. Several further doses of 0.5 to 1.0 Gm. may then be given every two hours until the auricular arrhythmia is eliminated. A maintenance dose of 0.5 to 1.0 Gm. every three to six hours is suggested.

TOXICITY: Occasionally, pronestyl may cause agranulocytosis. Large, oral doses of pronestyl may sometimes be followed by anorexia, nausea, and/or pruritis. In the presence of both kidney and liver disease, accumulation of pronestyl may occur, and continued administration of the drug may be hazardous.

PRECAUTIONS: Because of the danger of agranulocytosis, routine blood counts are advisable during pronestyl therapy. The patient should also be instructed to report promptly any soreness of mouth, gums, or throat, or any symptoms of upper respiratory infection. If these complaints occur, a confirmatory leukocyte count should be made without delay, and pronestyl should be discontinued immediately if leukopenia is present.

Electrocardiographs should be checked frequently for warning of impending heart block. In this respect, the nurse is also responsible for checking pulse frequently and reporting a count below sixty to the physician.

Let's Talk It Over

by Theresa G. Muller, R.N.
Nursing Director, Indiana Division of Mental Health, and
Assistant Professor of Psychiatric Nursing, Indiana University

CONSCIOUS and unconscious motivations toward the achievement of organic comfort and ego significance tend to generate behavior which is accompanied by varying degrees of satisfaction or dissatisfaction, more generally designated as pleasure or pain. Deprivations caused by environmental limitations in providing adequate sources for self-preservation and self-propagation initiate frustrations in accordance with any current social and cultural sanction for their direct or indirect attainment. The affective states accompanying deprivations and frustrations are variously designated as feelings, moods, temperaments, and emotions.

Feelings are the subjective awareness of general bodily states of pleasantness or unpleasantness, and are caused by biological tensions or frustrations of social desires. Feelings of unpleasantness may arise from the metabolic products of the carbon dioxide and lactic acid which result from undue muscular exercise. Other influences are related to the effect on the body of toxic-producing amounts of substances like opium, alcohol, arsenic, and poison from insect bites. Important contributing factors also lie in the lack of provision for bodily welfare by vital substances such as calcium, iodine, vitamins, oxygen, and water. Significantly, any removal of the foregoing limitations will tend to contribute to positive feeling states of pleasantness unless these are counteracted by psychic tensions from social frustrations.

MOODS are prolonged feeling states of irritability, cheerfulness, gloominess, or indifference. They may characterize a phase of life which any person experiences at a given time.

Temperaments were identified by Hippocrates as the choleric, the sanguine, the melancholic, and the phlegmatic. These indicate the feeling states which are generally characteristic of a person.

Emotions are built on basic human feelings which are single and undifferentiated in infancy and gradually take on a form which characterizes an individual in stress situations. They are not usually clearly classified nor defined but are enmeshed in innumerable personality factors and the environment. Thus, they are more readily understood by the description of the behavior of a person who is experiencing them rather than by the analysis of any single emotion. However, the emotions of love, anger, and fear have long been designated as primary emotions, that is, they may be differentiated in the very young child. Innumerable compound emotions may be distinguished, such as reproach, composed of anger and tenderness; anguish, composed of pain and sorrow; jealousy, composed of love, hate, fear, and humiliation; and pity, composed of contempt, love, and hate.

IT may be readily understood that a single emotion cannot be separated from other personality factors and the environmental conditions of an individual any more than the disturbing effects of a gastric ulcer can be limited to the stomach. However, the characteristics and dynamics of a specific emotion may be analyzed as a basis for its clarification. Let us see how the emotion of sympathy, which is generally thought of as unmodified and desirable, may be regarded when analyzed according to its origins, psychic and somatic manifestations, value to the person and to society, individual variations, abnormal states, effect on the individual, and relation to personality make-up.

Sympathy is the act of entering into and sharing the feelings, interests, and acts of another person or persons. It is an expression of agreement which lays the foundation for establishing and promoting mutual accord. In its positive aspect, the social expression of a mature person is reflected in constructive participation in individual or group activities. The generous nature of love and affection for others enriches and increases one's sense of well-being. In its negative aspect, undue identification with a person or persons may limit self-development and tend toward overdependency upon others for self-satisfactions, thus reflecting the egoistic character of the immature person who needs to identify with another to fill his own inadequacies. True sympathy, then, is the expression of a secure person who has the ability to give appropriate support to those in need of it.

Sympathy originates in the early identifications of a child with an older person. The relative maturity of such a person further influences the positive or negative development of the feeling. Mature sympathy evaluates others with trust and esteem. The stability resulting from the assurance of trust and esteem during early childhood is reflected in later years by the ability to estimate the needs of others with unbiased understanding and regard. A little child may show sympathy for another with whom he is identified in a dependency relationship by a real sharing of apparent suffering. The same child, however, may not have the social appreciation from which true sympathy springs, and may inflict intense cruelty on an unfortunate contemporary who is disfigured or is experiencing some other misfortune.

THE psychic manifestation of sympathy are characterized by the person who identifies with and thus experiences the emotions of another. A child, who has a close association with a parent or parent-substitute experiencing jealousy, hate or other negative emotions, may experience the same emotions without having experienced their original causes, or he may express uneasy feelings through temper tantrums, feeding problems, sleeplessness, etc. The positive identification of a child with a secure adult paves the way for adequate emotional development. When this is not achieved in the family circle, a positive association with someone else may be possible at any time in life, or a psychotherapeutic relationship may be necessary to break a fixation on a limiting life experience. Mature sympathy initiates constructive activity to alleviate the need for another and this, in turn, enriches the self. Reactions through such participation are noted in affection and love, tenderness and agreement, compassion and pity, congenial and harmonious relations.

The somatic manifestations express the reflected aspects. Thus, children and immature adults may experience negative emotions, such as hate and jealousy, through sympathetic identification with others. Such reactions arouse autonomic stimulation of the same processes noted in the original display of the emotions,

(*Continued on page* 37)

Marguerite Sauls

Practical Nurse . . .

by Ethel Hales Stancil

I DON'T remember when I first became aware of nurse Marguerite Sauls. When I first came to this hospital eight months ago, I was conscious of very little around me. But I know now that even then Mrs. Sauls was watching over me.

Most nurses prefer that their place of work change from one ward to another, from one group of private rooms to another, but not Mrs. Sauls. She always requests Ward 22, and it is as a rule hers, though sometimes, when the patients are many and the nurses few, she cares for another ward or a group of patients in private rooms. She works from 7:00 A.M. to 3:00 P. M. She is a licensed practical nurse, and it is therefore her responsibility to do what is sometimes considered "the routine care." She takes our morning temperature, respiration, and pulse. She feeds breakfast and lunch to those who are unable to feed themselves. She brings us our bath water, washes our backs, and bathes those unable to bathe themselves. She rubs tired backs and assists us with bedpans. She keeps our pitchers filled with ice water, makes our beds, and performs the other tasks our invalidism demands. When patients are able to sit up, she helps them in and out of bed. When they come from the operating room, she sits with them, feeling their pulse, and observing their respiration, until the effects of the anesthetic are gone.

But Mrs. Sauls does much more than care for us physically. She is a nurse who sympathizes sincerely with her patients and does everything possible to ease their pains. My legs were in traction for four and one half weeks, and during that period I was in intense pain much of the time. Sometimes, the least movement of a pillow under my legs would ease the pain. Mrs. Sauls invariably found comfortable positions for me. When a patient is in read pain, she does not wait to be asked for a medication. She herself asks the patient if she would not like something for pain, if it is allowed.

Mrs. Sauls, because she stays on duty in one ward, comes to understand her patients. If neglected old ladies, who are in need of love, come into our ward, Mrs. Sauls gives them all the attention she can. Her approach is indeed wonderful. She fusses over their appearance, coaxes them to eat, makes them as comfortable as possible, and discusses their interests in order to make them forget their illnesses.

If a patient has no one to launder her gowns and bedjackets, Mrs. Sauls will take them home with her and bring them back fresh, without charge.

Mrs. Long, a minister's wife, was one of our patients. Mrs. Long wanted very much to hear her husband's Sunday morning service over the radio, but she had been unable to secure a radio. Mrs. Sauls, at her own expense, rented one from the office for her.

Every morning, Mrs. Sauls brings the local daily paper from her home for us to read. This may seem trivial, but it affords us contact with our community when we might otherwise lose communication with it. Moreover, she brings books and magazines with articles and stories fitted to the individual personality of her patients.

When I began crocheting to pass the long days, she brought crocheted pieces she had made so that I could copy the designs, and she gave me crochet pattern books to study.

When I tired of crocheting, she suggested knitting. I had not knitted in a long time, but she saw that I got suitable yarn and needles, and encouraged my efforts.

Mrs. Sauls furnishes religious reading for those desiring it. She brings me magazines and booklets containing daily devotionals and frequently we discuss the day's word.

If a patient needs an article from the store, or needs a telegram sent or a phone call made, she is always willing and ready to oblige.

As busy as she is here at the hospital and in her own home, she finds time to spread joy with her nimble fingers. Every employee of the hospital who has a baby receives a beautiful hand crocheted wool baby sweater from her. She makes these for nurses, maids, and cooks. An elderly patient wanted a warm knitted bedjacket for wear on cool mornings. Mrs. Sauls made her one without charge.

Mrs. Sauls has two sons. She doesn't have much time for activities outside her home, but she does attend P.T.A. meetings. She can't go to Sunday School and church on Sunday mornings (she is working then), but she goes to church on Sunday nights and works with its young people's group.

One is apt to wonder how Mrs. Sauls accomplishes so much, how one person can find the time and effort to spread the happiness she does. But God gives extra minutes, extra hours and energy to those who devote themselves so unfailingly to an unselfish love for others.

This practical nurse, like Mrs. Sauls, enjoys her work and derives satisfaction from it.

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Industrial Health News

Heart Disease Costs Insurance Companies One Billion Dollars

Heart disease in all its forms, the nation's No. 1 killer, cost life insurance companies one billion dollars in death claims in 1953. This statement was made by Dr. Louis I. Dublin, consultant on health and welfare of the Institute of Life Insurance, at its annual convention. Dr. Dublin is the officer in charge of mortality rates for the Metropolitan Life Insurance Company, and he therefore recognizes the growing importance of heart disease. He believes that the research sponsored by the life insurance companies is a service expected by the people of this country.

In-Plant Health Services Assure Reductions in Sickness Absenteeism

Sickness absenteeism in industry, causing a loss each year of 400 to 500 million man-days, can be reduced by one-third to one-half with the establishment of in-plant health services, according to Dr. Seward Miller, of the U. S. Public Health Service, Division of Occupational Health. Attention has been given to methods of extending in-plant health services, particularly in smaller industries. Following a meeting with leaders in the field of industrial medicine, a group was formed to study methods by which better medical services to workers could be established.

Canadian Nurses Hold Institute on Occupational Health Nursing

One hundred and five nurses attended an institute on occupational health nursing sponsored by the University of Ottawa School of Nursing, Ottawa, Canada. Subjects discussed included medical and nursing problems in small industries, workmen's compensation, health education, and occupational health in the community.

Management Saves Compensation Dollars Through Eye Programs

Assigning "the right eyes to the right job" is an essential part of effective industrial sight conservation, according to a recently published survey made by the National Society for the Prevention of Blindness in cooperation with the Gray Iron Founders' Society. The report states that many companies embarked rather hesitantly on a complete eye program (including vision testing), but that they now admit that actual savings in compensation dollars have long since proved the program to be a good investment. A complete eye program, according to the study, should include: a thorough plant survey to discover all vision hazards, arrangements for testing vision of all employees, adequate facilities for distributing and keeping protective equipment, adequate systems for keeping records of eye injuries and accidents; and provision for the enforcement of safety regulations.

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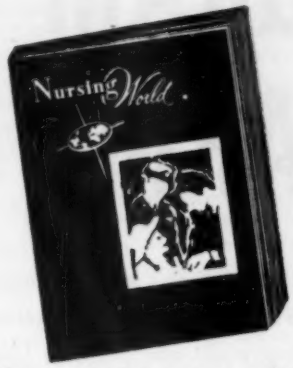

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ARMY NURSE CORPS

The Dynamics of Human Relationships
Let's Talk It Over

(*Continued from page* 32)

i.e. increased heart beat, flushing of skin, and respiratory changes. Identification with affectionate and secure persons encourages the acquisition of their positive characteristics. Thus, while negative emotions tend to produce somatic disturbances resembling physical disabilities, positive emotions tend to generate a secure and harmonious well-being that contributes to undisturbed physiological functioning.

The value of the emotion to oneself and to society lies in the extension and expansion of the self in relation to others. Such relationships should be distinguished from a limiting identification to meet an egotistic need. For example, an undue concern about being discriminated against may indicate inferiority feelings about one's own limitations or those of another with whom one might be emotionally involved.

Sympathy for the oppressed arouses action in order to obtain some measure of relief. A common grievance will tend to form an interpersonal bond generating energetic activity. Mature sympathy contributes to human welfare, as well as to artistic and scientific progress, by constructive participation in movements for the protection of the needy and the enhancement of the worth of others. A struggling person may be helped by constructive sympathy, but he may be hindered by a limiting sympathy which discourages the expenditure of effort.

There are individual variations in personal capacities to identify with or to develop mature sympathy for others. An egocentric person does not go beyond the expression of self-satisfaction, even though the form of good works is simulated according to conventional standards. An immature person lives so completely the life of another with whom he identifies himself that no real sense of personal identity emerges. The loss of this other self, which in a sense is his true self, is likely to cause a complete shattering of the individual.

Inability to express sympathy for or to relate oneself to others is an abnormal characteristic noted in psychopathic personalities and schizophrenics. On the other hand, a person who reacts without discrimination for the real issues may appear "too sympathetic."

Sympathy may simulate an exaggerated social feeling for the good of another when, in reality, it is a form of self-seeking. An expression of true sympathy may be noted as philanthropy, but philanthropy may also be an expression of the giver's need for a feeling of worth.

Sympathy springs from and results in the need to relate to others. Mature sympathy is founded on secure relationships in family, friendships, and love.

Everyone has experienced the sympathetic reaction to others, but few analyze the egotistic aspects and the tendency to be kindly only when the return is certain. The extraverted person generally relates easily to another with relatively slight intensity of relationship. The introverted person may not readily relate to another, but tends toward greater constancy when he does.

Sympathy resembles the effects of pity and compassion, tenderness and affection, identification and sympathy. True sympathy is a conscious reaction to someone with whom we are in harmony or to something we wish to promote. Pity and compassion are expressed for those we consider to be weaker in some respects. Tenderness and affection are shared reactions. Identification is an unconscious relating that makes us react as though another's experience were our own. Sympathy is the ability to enter into the feelings of another with understanding and helpful concern.

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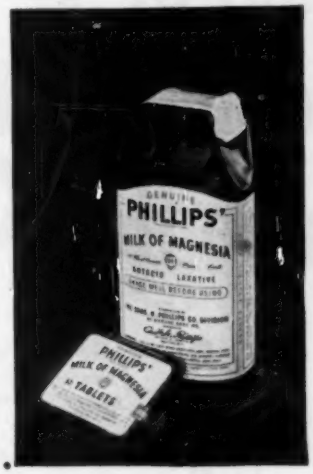

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Practical Nursing News

Colored Practical Nurses of Louisiana

The fifth annual convention of the Colored Practical Nurses of Louisiana was held Oct. 22-23 in New Orleans. The program theme, "New Designs in Practical Nursing From Old Traditions," emphasized newer trends in nutrition, health teaching, polio nursing, and cancer nursing.

Mrs. Ida M. Governor of New Orleans, former president, was appointed as the first executive secretary of the association. New officers elected were Mrs. Rose Eli Jacobs, New Orleans, president; Mrs. Emily Mayo, Baton Rouge, corresponding secretary.

Ohio Holds Fourth Annual Convention

The fourth annual convention of the Practical Nurse Association of Ohio, Inc., was held at the Commodore Perry Hotel, Toledo, October 22-23. The theme, "Working Together Assures Success," was reflected both in the program meetings and in the reports of successful activities. Speakers included Dr. Max T. Schnitker, Toledo, who discussed ethics; Mrs. Mildred Bradshaw, R.N., Norfolk, Va., who spoke about "Your Stake in Practical Nursing;" George Quinn, Cleveland attorney, whose subject was "The Practical Nurse, Her Goal, and Obstacles Preventing Achievement;" and Mary James, director of District Nursing of Toledo, who considered teamwork. "The Past, Present and Future of Practical Nursing" was discussed by a panel moderated by Mary Schabinger, R.N., Detwiler Memorial Hospital, Wauseon.

Social activities included a group breakfast and a banquet with Gordon Jeffery, Ohio civic and welfare leader, as the speaker. His subject was "Public Relations Is No Secret Rite." Unusual entertainment was provided by "The Rhythm Wheelers," a group of patients in wheel chairs who did a series of round and square dances.

The convention adopted personnel policies, which included status, hours, compensation, and dress for the practical nurse. A regulation cape of dark gray with royal blue lining was adopted. The letters PN-AO will be on the front of the round collar.

The new directors elected to serve for two years included Mrs. Magdalena Kuhlmann of Toledo, Mrs. Mildred Lipsteurer of Cleveland, Mrs. Muriel Swisshelm of Enon, Mrs. Helen Graham of Cleveland, and Mrs. Maidai Conrad of Cincinnati.

Florida State Board Examinations

Practical nurse examinations were held February 8 at the Seminole Hotel, Jacksonville (complete applications by January 8), and will be held on June 1, in Jacksonville (complete applications by May 1). For information, apply to Hazel M. Peeples, R.N., Florida State Board of Nurse Registration and Nursing Education, 230 W. Forsyth St., Jacksonville.

South Dakota Holds 2nd Convention

Mrs. Olga Ulberg, Sioux Falls, has been appointed the first executive secretary of the South Dakota Practical Nurses' Association. This appointment and the resolution to encourage men to enter the field of nursing were important consideration of the annual convention, held in Mitchell, October 14-15.

Mrs. Charlotte Hansen, Yankton, was elected president. Others elected were: Lucille Gross, Pierre, Secy.; Mrs. Helen Hagan, Madison, Board of Directors for two years; Mrs. Ruth Herreid, Watertown; and Mrs. Alvina Mikkleson, Yankton, Board of Directors for one year.

EVERY LISTED PEDIATRIC SPECIALIST
was questioned by an independent research organization about an article published in the Archives of Pediatrics. These specialists were asked whether they agreed with the reprint material.

Of the pediatricians who believed their experience justified an opinion, 156—81.7%—replied yes to all three points in question.

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b | **is "more easily digestible"** than any other kind of cereal. Of the 248 answering definitely, 212—85.5%—said yes.

c | **gives "nutritional energy more rapidly"** than any other kind of cereal. Of the 220 answering definitely, 178—80.9%—said yes.

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You and Ed will also learn that your best "insurance" against cancer is a thorough health examination every year—twice a year if you are a man over 45 or a woman over 35.

For information on where you can see this film, call us or write to "Cancer" in care of your local Post Office.

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News for Nurses

Nurses and Friends of Nursing! Make Plans Now for the 1954 ANA Biennial Convention

Between six and seven thousand nurses, student nurses, and friends of nursing are expected to attend the 1954 convention of the American Nurses' Association which will be held in Chicago next April 26 to 30. This will be the thirty-ninth convention of the ANA since its founding in 1896.

Nurses representing all the states and territorial constituents of the ANA, including delegations from Alaska, Hawaii, Puerto Rico, and the Panama Canal Zone, as well as observers from national nurses' associations in many foreign countries, will be on hand for this important assembly.

Approximately 2,000 student nurses, representing the new National Student Nurse Association, will be in attendance. They will be meeting in convention with the ANA for the first time since the formal foundation of their organization in June 1953.

Heralded by the provocative theme, "Calling American Nurses to Action," the 1954 convention will concentrate on topics of paramount interest to the ANA. The delegates will determine basic issues affecting the ANA's structure and operations, adopt a platform to chart its course, and elect national officers and directors for the next two years. This new programming arrangement is possible under the plan of separate biennial conventions in alternate years for both the ANA and the NLN.

Those attending the convention in Chicago will hear a number of nationally prominent authorities discuss problems of interest to the nursing profession. Dr. F. S. C. Northrop, professor of philosophy and law at Yale University Law School, will speak on "Human Values in a Scientific Age." Dr. Howard A. Rusk, director of the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center and associate editor of *The New York Times*, will consider "The Nurse's Role in Rehabilitation." His talk will be followed by a symposium, led by a panel of nurse leaders, on rehabilitation aspects of specific clinical specialties. Other stimulating programs will include: a "problem clinic" on membership promotion, a symposium on the ANA Studies of Nursing Functions in relation to professional functions and nursing practice, and a unique presentation of the ANA Economic Security Program entitled "A Bill of Rights for Nurses."

In addition to the interesting and educational aspects of the convention, there will be a daily showing of specially selected motion pictures. Exhibits, displaying the latest advances in scientific and technical fields, will be open Monday through Thursday, from 8:45 A.M. to 5 P.M.

To assure the best choice of hotel accommodations and rates, everyone coming to the 1954 convention in Chicago is advised to make reservations as far in advance as possible. Forms for hotel reservations have been sent, together with a convention announcement, to all members of the ANA whose names were on file as of December 1, 1953. Any nurse who joined since then or who did not receive the announcement, may secure a form from the Convention Manager, American Nurses' Association, 2 Park Avenue, New York 16, N. Y. The Chicago Housing Bureau, which handles all hotel reservations for the 1954 ANA convention, has set aside eight hotels, all located close to the center of convention activities. They are: Ambassador, Congress, Conrad Hilton, Harrison, Maryland, Morrison, Palmer House, and Senator. Rates range from $5 to $14 per day for single bedrooms; $7 to $22 for double beds; $8 to $20 for twin beds; and $14 to $49 for suites.

An innovation, which will undoubtedly be welcomed by all who attend the convention, will be a simplified, one-stop registration plan. All ANA members will register according to their national sections, and they need only bring with them their current 1954 ANA membership cards on which is printed the name of the ANA section to which they belong. Any nurse whose membership card does not show the name of one of the seven ANA sections corresponding to his or her occupational field of nursing, should request her district or state nurses' association to issue a correct card before coming to Chicago. Registration fees for the Biennial are: $5 for ANA members; $3 for student nurses in basic program schools; and $6 for non-members. No provision is being made for advance registration for the 1954 convention.

NURSING WORLD will publish a complete schedule of the convention activities in a future issue.

Many People with Heart Disease Engage in Productive Activity

A great many people with heart disease, even those who have experienced

(*Continued on page* 42)

The Adjustment Aim in Nursing Education

(*Continued from page 20*)

mental one. The guidance function in the nursing school must be met by every available method. The school and hospital situation present numerous and challenging opportunities for the effective practice of all known aspects of guidance techniques. The "adjustment aim" as it applies to nursing is simple, easily interpreted, and in line with modern thinking; the guidance function, when realized, fulfills that aim. Periodic critical review of the aims, objectives, and content of the courses in Professional Adjustments for nurses reveal unparalleled opportunity to employ guidance techniques in meeting this adjustment aim. This is so because these courses touch on all aspects of the individual and provide elements for consideration in all of the main phases of the guidance process. While guidance cannot be concentrated in course materials or administered only through classroom situations, the Adjustments courses, because of their very nature, may be utilized quite effectively as tools for both group and individualized service. The success of the teacher who plans, coordinates, and presents these courses will be largely determined by the degree of self-directing activity she stimulates. If she takes full advantage of the teaching and learning situations presented by such "problem" courses, the contribution of the guidance function can have a far-reaching effect in realizing curriculum aims. It is not assumed that one phase of the curriculum is more important than any other in reaching desired objectives, or that one guidance technique is more effective in a given situation than any other. The success of the personnel program in any school is determined by many of these factors, with emphasis on the unity of the guidance function in all phases of curriculum structure and administration. However, because the Professional Adjustments courses present such varied opportunity for dynamic personnel work, and because their placement in the curriculum meets the need for special help in particular guidance areas, they have been discussed as effective channels for group and individual guidance. Correlated and integrated activities and instruction in *all* phases of the nursing school curriculum cannot be overestimated in regard to their valuable contribution to the guidance objective.

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News for Nurses

(*Continued from page* 40)

a coronary occlusion, live for many years and safely engage in productive activity. A study by the Metropolitan Life Insurance Company has shown that seven out of every ten of a group of men who were completely disabled by a coronary occlusion lived five years or more, that about half lived ten years or longer, and about one-third lived fifteen years or longer. During the first five years, about one-sixth of the men returned to work, or were judged able to do so by competent medical authority.

The study was based upon male policyholders who had been disabled for a sufficient length of time to receive disability benefits under life insurance contracts. In the general population, the experience is even better for all cases surviving a coronary attack.

The survivorship record and the proportion returning to work in the group was somewhat more favorable among those under the age of 50 when disabled than it was for those who were older.

1953 Edition of "Facts About Nursing" May Be Obtained from the ANA

The 1953 edition of "Facts About Nursing" may be obtained from the American Nurses' Association, 2 Park Avenue, New York 16, N. Y. There is a charge of $1.00 for each copy. Advance copies of the order form flyer have been mailed to state and district nurses' associations.

Fourth National Conference on Health in Colleges Will Be Held in May

Approximately forty national organizations interested in aspects of health and education are joining with the American College Health Association in sponsoring the fourth National Conference on Health in Colleges to be held May 5-8, 1954, at the Hotel Statler, New York City. Dr. J. L. Morrill, president of the University of Minnesota, is president of the conference.

The objectives of the conference will be to consider ways for protecting and improving the health of college students through comprehensive and integrated programs of health service and health education, and to formulate suggestions for relating college health programs to all other college functions. The theme will be: "Teamwork in Meeting the Health Needs of College Students."

Attendance of from four to five hundred college and university presidents, deans, physicians, nurses, psychologists, specialists in physical education, health educators, student counselors, and others who have a stake in the health of students, including students themselves, is expected.

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